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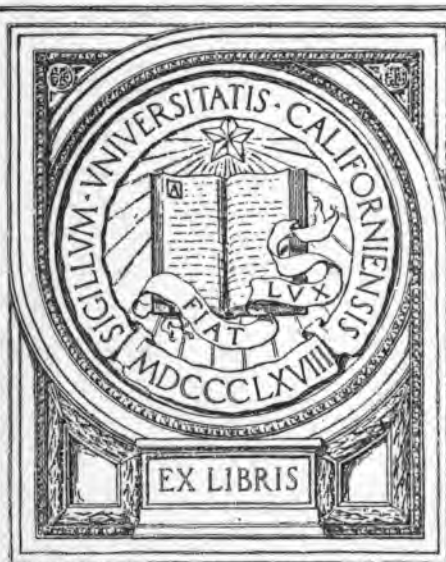
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HIGH SCHOOL
COURSES OF STUDY
CALVIN O. DAVIS

SCHOOL EFFICIENCY SERIES
PAUL H. HANUS

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SCHOOL EFFICIENCY SERIES

High School Courses of Study

SCHOOL EFFICIENCY SERIES

Edited by **PAUL H. HANUS**

High School Courses of Study

A constructive study applied to New York City

By **CALVIN O. DAVIS**

**JUNIOR PROFESSOR OF EDUCATION,
UNIVERSITY OF MICHIGAN**



**YONKERS-ON-HUDSON, NEW YORK
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W. SCOTT THOMAS

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EDITOR'S PREFACE

OUR public and private high schools are attended by upwards of a million and a half of adolescent boys and girls. Some of these pupils complete the secondary school courses of study, and a few of them go on to colleges or professional schools. Many of them leave school each year, either unable or unwilling to complete the secondary school course. In any case, the period covered by secondary education is most important. It is the period during which the boys and girls are emerging from childhood into manhood and womanhood; the period during which they must learn to put away childish interests and duties and learn to appreciate the significance and value of the interests and duties of adults; the period, also, during which, because the plasticity of childhood is rapidly changing into the stability of early maturity, the influences to which they are subject in what they learn and what they do, are likely to be permanent. Moreover, secondary school pupils are a selected group, selected by the fortunate circumstances of their lives, or by their personal interests and ambitions. They are consequently destined to become directive participants in the world's affairs. They are to be in an important sense the leaders of the "masses" in public and private life. It is not strange, therefore, that thoughtful students of education are scrutinizing secondary education as never before. Society expects much from our secondary schools, so does the individual. Are these expectations realized? Can they be realized under the conditions now governing the schools?

In attempting to answer these questions one must have in mind a clear conception of the function of the secondary

school in our democratic society, and one must analyze its work in the light of that conception. The core of that work is the course of study—what instruction the school offers and how that instruction is administered. The present volume deals with the problem of the secondary school course of study on the basis of a formulated conception of the function of contemporary secondary education. In the first three chapters Professor Davis presents what we believe to be the generally accepted conception of the aims and scope of secondary education throughout the country to-day, so far as they are embodied in the courses of study. The fourth chapter contains an outline of the courses of study to which that conception has given rise in several important cities. The remaining chapters constitute his report on the New York City high school courses of study.

The work assigned to Professor Davis, as one of my associates in the New York City School Inquiry, was an examination of the high school courses of study; and this volume contains the results of his inquiries, with no changes except slight changes of form, save for the addition of the chapters mentioned above. The book, like the other volumes of this series, therefore, consists chiefly of a portion of the report submitted by me as specialist in charge of the educational aspects of their inquiry to the Committee on School Inquiry of the Board of Estimate and Apportionment of the City of New York, in July, 1912.

I venture to call special attention to Chapter 10, containing the criticisms and recommendations based on the detailed analyses of the chapters immediately preceding, and to the summary of recommendations at the end of the volume, in which all of Professor Davis's recommendations are brought together in one place for convenience of reference. In its present form we hope that the volume will be of use to secondary school teachers and principals outside of as well as within the city of New York.

PAUL H. HANUS.

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AUTHOR'S PREFACE

THIS book consists of my report on the New York City High School Courses of Study, together with four chapters dealing respectively with "The Newer Conception and Aims of the High School," "The General Aspects of the Program of Studies," "The Special Aspects of the Program of Studies," and "High School Systems in Ten Cities." I have written the chapters just named especially for this book in order to give a broader setting to my investigation, and to the criticisms and recommendations made in my report. It is hoped that the book, in its present form, may prove of service to administrators and teachers outside of New York City as well as within New York City. An exhaustive study of the Program (Course) of Studies has not been attempted. Such a study could not be given in a single volume. But enough is given to lay the foundation for a clear conception of the scope and aims of contemporary high school curricula. The purpose of the book is to promote a clearer appreciation than is now prevalent of the fact that a new conception is developing respecting the function of our public high schools and hence also of the high school program of studies as a whole; to stimulate educators to analyze the aims and values of each subject studied in the high school; and to arrange curricula for individual pupils with reference to their special interests and needs.

CALVIN O. DAVIS.

UNIVERSITY OF MICHIGAN.

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High School Courses of Study

HIGH SCHOOL COURSES OF STUDY

CHAPTER I

THE NEWER CONCEPTIONS AND AIMS OF THE HIGH SCHOOL

PUBLIC schools fulfill their true functions only when they relate themselves intimately to the social needs of the time and place in which they are established. Hence it is fundamentally essential, in planning a system of schools for any community or in entering upon a critical survey of an existing system, that a careful study first be made of the determining factors of that system, *i. e.*, of the social conditions of the community and of the interests and ideals of the body of citizens concerned. Any system of schools that is accepted without considering such conditions, or is perpetuated without making such a study at frequent intervals, must prove inadequate to real educational needs.

Nearly every American city and town has a heterogeneous population consisting of distinct social classes, and varied, oftentimes conflicting, economic interests. Each city (with rare exceptions) has both native-born citizens and foreign-born immigrants; each contains families of wealth and families of small means; cultivated families and families without culture; strong and influential families and families lacking both strength and influence; and each enrolls among its workers men and women engaged in professional, industrial, commercial, artistic, and domestic occupations. That is to say, the typical American city is varied in its activities and interests. Hence, in order to minister to

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their varied social needs, and in order to take full account of the individual aptitudes, ambitions, and resources of their people, these communities rightly expect that their schools shall be organized and administered on a broad and liberal basis.

A study of the personal characteristics of the pupils leads to the same conclusions. Each individual differs from his fellow in native temperament and in his capacity for acquiring and utilizing power. Moreover, both educational theory and educational experience support the assertion that efficiency and happiness are augmented when a youth's systematic training is in harmony with his natural bent rather than opposed to it or at cross-purposes with it. Since, however, the special aptitudes of youths are often not easily discernible either by themselves or by others, one great aim of the schools must ever be to reveal to each individual and to society the dominant powers of each person; and, as these powers are gradually discovered, the school must develop them to the highest degree possible in the time and with the means available.

Both social and individual well-being, therefore, argue against any attempt to mould all citizens in one form. Nevertheless, formerly—and even until recently—the opposite principle prevailed in practice. Whether the youth was preparing for continued schooling or for immediate entrance on active practical affairs was of no significance. In both instances the instruction and training furnished him was usually the same. Discipline was the school ideal. It mattered not (so it was held) on what his powers were exercised, since the training that best fitted him for college also best prepared him for any vocation. The aims in life might differ, but the means and methods of realizing the aims should be the same. Moreover, it is important to note, the subject matter and instruction were, in practice, those that the colleges regarded as valuable, which, in many instances, are not those which the demands of practical life might suggest or require.

THE NEW THEORY OF THE AIMS OF HIGH SCHOOL EDUCATION

Recently the old-time theory has undergone revision and a new one is in course of formation. In this the terms are almost completely interchanged. The question now being asked is: Are not a school and a curriculum that fit a youth well for practical life equally serviceable and able to fit for college? Or, stated otherwise: If mental discipline be the desideratum for admission to college, may not subject-matter that has a rich content for practical life also be made to furnish as desirable and as satisfactory mental discipline as do the traditional subjects, the social utilities of which have been largely lost?

Although these questions have not yet been unequivocally answered, it is already possible to say that the doctrine of "formal discipline" has its limitations, and that the traditional training formerly demanded and accepted for entrance to college is not necessarily *per se* the best training for the non-collegian. Indeed, in many cases, it cannot be doubted, such training is distinctly harmful, since it frequently dulls interest in school work, and postpones—often beyond remedy—the opportunity for specific, systematic, vocational instruction, or for instruction which for the particular youth in question is of immediate value.

However, conservatism is a mark of every social institution, and in no place has it held its ground more stubbornly than in education. Tradition, vested interests, and indifference have combined to resist the ready introduction of change and adaptability into the schools. As a consequence, educational institutions have always lagged behind social progress and have always been more or less out of touch with contemporary social needs. Only tardily have new claimants to educational consideration been recognized and new principles of administration been put into operation. The influence of a strong personality has occasionally effected reform, and new ideas have been adopted in a few places. Permissive legislation has come to the aid of move-

ments for improvement and given them legal sanction. But, even after all this, long and persistent efforts have usually been necessary in order to establish a general acceptance of the change; and, unfortunately, by the time the victory has been won, the social conditions have often undergone such transformation that the subject-matter, or method, or principle which has been so persistently contended for has lost much of its value and the battle has to be fought over again under new conditions. Thus slowly does school procedure make and remake itself. And thus, too, social conditions are always far in advance of the educational agencies that seek to prepare members of society to meet contemporary situations. However, the tendency of the age undoubtedly is to make the schools more vital, more elastic, more directly subservient to the contemporary interests and needs of society as a whole and to the various members of society as individuals. Indeed, a public school in a democratic society can be justified on no other grounds.

WHY ELEMENTARY EDUCATION SHOULD BE NEARLY UNIFORM FOR ALL

To-day educational theory, based upon physiological, psychological, and sociological studies of children and adolescents, leads definitely to the conclusion that elementary education—that is, education designed for youths before they reach the period of puberty—should be nearly uniform in character for all, and should have the following aims: (1) to acquaint children with the tools of culture; (2) to give moderate skill in the use of these tools; (3) to impart a fund of knowledge that shall include the larger concepts of the world and its life, together with the means of making adjustments thereto; and (4) to establish desirable physical, mental, and social habits. The education of this period seeks to satisfy the normal curiosity of the child respecting the relations of man to his fellow men and to the natural phenomena about him. While it does not attempt

scientific and philosophical interpretation of events and facts, it does seek to give a clear empirical interpretation of social life and its natural environment.

By the time the child has reached the period of adolescence, therefore, it should be expected that he will have been made acquainted, in a general way, with the world's most important interests; will have acquired a well-organized stock of useful knowledge and a discipline that will enable him, so far as his stage of development permits, to employ his powers effectively; and will have made some advance toward the discovery of his own dominant aptitudes and interests. He should also know the more common forms of vocational activity and have had a glimpse of the roads that lead toward them. It is indisputable that youths of twelve or fourteen years of age ought never to be unduly forced into a life career once for all; but, *per contra*, they ought never to be left to map out their future careers unaided and unadvised.

Until about the age of twelve years boys and girls live more or less unreflective lives. During this period their judgments are, for the most part, one-sided, fickle, and unsafe. Thought is centered upon immediate topics; reliance is placed upon others for sustenance, guidance, and direction; action springs out of youthful experiences, and functions, in large measure, in immediate desires, pleasures, and ends. If thrown wholly upon their own resources at this time young people are puzzled, baffled, and checked. Rarely indeed has previous experience of a special sort already taught the lesson of self-dependence.

DIFFERENCES BETWEEN THE AIMS OF THE ELEMENTARY AND THE HIGH SCHOOL

With adolescence comes an almost complete change. The habits of uncritical thought, the sense of the ideal as immediately real and realizable, and the impulsive activities of the earlier period tend to give place to more serious reflection,

to prevision, and to conduct shaped to more distant ends. The transition, however, is neither abrupt nor regular, but consists of a succession of unarticulated steps which bear the distinctive characteristics of the two different periods in varying proportions. The boy is becoming a man, with a man's seriousness of purpose and a man's aspirations; and yet he is clinging to the ideals and interests of the child, with the child's love of immediacy and the child's self-centered world of action. He is being drawn in two opposite directions at the same time. He is being born anew, body and soul undergoing a transformation simultaneously. What formerly pleased no longer attracts. New subject-matter, new methods, new forms of organization and administration in schools are now demanded. The empirical processes of the elementary grades do not satisfy. The boy is growing scientific and philosophical and seeks to learn the essential relations of things. In short, the powers of analysis, discrimination, and organization are becoming dominant.

These two stages of mental development are, then, respectively, the two stages of the elementary and secondary school. In the first the boy takes what is given him, with a faith that is more or less strong. In the second he is inclined to challenge the subject and the teaching and to accept only what satisfies his tastes or his reason. In the first his aim is to gather and assimilate valuable and interesting, though not necessarily related, facts; in the second he will be interested not only in facts as facts, but in their value for discovering laws, principles, and processes.

In the earlier grades of the elementary school, where the child needs and instinctively seeks some older person to advise and select for him, a fixed and definite curriculum is both advisable and defensible. When the boy becomes an adult with a trained judgment, no one should presume to dictate his course of procedure or the material that should be assimilated to assist his continued growth. But during the transitional period—the period between dependent childhood and independent maturity—there should be (and must

be if the school is to accomplish its proper ends) a gradual training in choice, a gradual relaxation of external authority and direction, and a gradual increase in the exercise of his own powers of forming analyses, judgments, and volitions.

It is, therefore, obvious that three distinct types of programs of studies are required to meet the needs of pupils in the various stages of school work—one for the elementary school pupil, one for the secondary school pupil, and one for the student in higher institutions of learning. The first may wisely be kept uniform and restricted; the last must of necessity be all-inclusive and flexible; between these two must be found a program that partakes of the character of both the others. It is with this third type of program that we are concerned in the present study.

THE PUBLIC HIGH SCHOOL OF TO-DAY

The public high school of to-day is, therefore, clearly and emphatically a social institution arising out of the needs of society, supported and directed by society, and performing important functions in society. It is a conservator of social interests and a promoter of social progress and ideals. Individual, class, or special interests are important only in so far as each can be made to serve, directly or indirectly, the larger interest of society as a whole.

Accordingly, the public high school to-day is a composite affair. It is a tripartite unity. It is tripartite in form and tripartite in function. It has gathered into itself the old ideals of the Latin grammar schools, the academies, and the advanced grades of the elementary schools, and seeks to realize each of these simultaneously. It aims to develop the three aspects of mental life—the intellectual, the emotional, and the volitional. On the intellectual side it stresses formal training and knowledge and the preparation for continued study; that is to say, preparation for admission to institutions of higher learning. On the emotional side the aim is

general culture; that is, refined feelings and tempered responses arising from an appreciative familiarity with the resources of past civilizations and the enhanced ability to interpret fairly the civilization of to-day. On the volitional side its work is to produce moral power and trained efficiency in all forms of worthy endeavor.

Obviously the three mental powers and the corresponding educational aims are not separate and distinct. Pure intellect, pure emotion, or pure volition is unknown. So, too, merely preparation for college, merely general culture, or merely practical efficiency is an ideal seldom found in any high school. What is usually sought is the development of the well-rounded youth, approximating the standards set in all three of these groupings. Nevertheless, in the case of pupils themselves, one of the three aims is generally uppermost. Hence, as a rule, the high schools to-day seek: (1) to prepare for college or university such students as look forward to a college education; (2) to give a broad general culture to those students whose social or economic good fortune enables them to defer the choice of a vocation until after completing the high school course, but who nevertheless have no desire or intention of continuing their education in college; and (3) to give a practical training, in specific subjects, to those students who must secure systematic vocational instruction (if at all) during the one, two, three, or four years immediately following the completion of the elementary school course. In a very true sense, therefore, the threefold aims of the high school may be said to be college preparation, general culture, and vocational or practical knowledge and power.

These aims are not new. They have long existed with more or less conscious recognition in secondary schools of many types. Usually, however, one aim has been so emphasized that the other aims have largely been obscured and unnoticed. The striking peculiarity of our modern high school is the readjustment of emphasis, so that all the aims have become conscious, coördinate, and publicly acknowledged.

In the newer conception of the aims and purposes of the high school the word "culture" is fast acquiring a new significance and new connotations. Culture (in the broad sense) is training, but it is no longer training along a pre-conceived, traditional line. Culture, as has been stated before, is the ability to interpret life aright and to make it yield both happiness and social benefit. It is a sympathetic acquaintance with a wide range of knowledge and activities, and ready control over a limited number of such activities. Hence even "culture" has its practical aspects. Stated otherwise, the practical in education may be but the cultural reversed, since both are aspects of the same thing viewed differently. In the growing conception of the ideal high school, however, the cultural element is not inimical to the practical, nor the practical to the cultural. The demand is that the two shall be presented as a unity—but a unity in which the components are blended differently for different purposes.

Public education, likewise, is daily developing a more social character. Not only are the personal interests of the individual and the political interests of the state being considered, but the economic, hygienic, moral, and recreative interests of society as a whole are being taken into account. The individual is valued not less, but society more. The idea of education for education's sake is fast disappearing. Education, like everything else in life, to be good at all must be good for something—it must have a value in real social life, either immediately or mediately. In other words, education is fast taking on a utilitarian form and character—utilitarian in the large, worthy, and comprehensive sense of ministering to the actual needs of a varied and progressive society and to the real happiness of its individual members.

Although this conception of education seems to be securing a firmer and stronger hold in all types of schools—elementary, secondary, and higher—its recognition in high school circles is peculiarly noteworthy. In elementary education the practical value of the instruction given has always

been acknowledged. In collegiate circles, too, the training received has usually been looked upon as utilitarian, in part at least, because it fitted for enlarged social service. But secondary education, in and of itself, has too often been a fragment, unconnected, uncoördinated, and unarticulated with either of the other divisions. It has too often been a field apart, having little regard to the needs of practical life, and, save in the case of students preparing for college, leading to no specific goal.

The present conception is wholly different. The present high school is not an isolated institution, but an integral and organic part of a system. It is not a "class" school patronized by the favored few, but the agency that unifies all classes. It is not an institution that concerns itself solely with intellectual and moral culture, but its range of functions comprises the physical, political, social, æsthetic, and vocational interests of human beings. It is the People's School in a very true sense, since it is supported by all, and seeks to render to all the most efficient service possible.

This democratic ideal demands, therefore, that the high schools shall afford equal opportunities for all—not only in intention, but in fact. It demands that the schools be available to the sons and daughters of the wage earner as well as to the children of the economically independent citizen, and that they provide a continuous and progressive education of any kind for which a real demand appears. The ideal requires further that each pupil shall be encouraged and aided to develop his powers and potentialities to the utmost degree which his nature and circumstances will permit—provided only that this development conduces to good ends. The aim is not solely knowledge, but power to feel and to act under the guidance of knowledge. The school seeks not merely to produce a scholar, but to develop in the individual such refined tastes and sympathies that he may be ready and qualified to play his part in active social and business affairs. Indeed, under the newer ideal, the school neglects its opportunities if it does not develop in young men and young

women not only the ideals of what is good and true and beautiful, but also the disposition and power to coöperate with their fellows in attempting to realize some of these ideals. In short, the high school to-day aims to function directly in concrete life—and this not merely at the end of a four-year course, but at every stage in the course.

CHAPTER II

THE GENERAL ASPECTS OF THE PROGRAM OF STUDIES

THE conception of the program¹ of studies to which the considerations discussed in the previous chapter directly lead is that it is a selective agency provided by the State to enable the members of successive generations to promote their individual development; to choose their life careers according to their aptitudes, ambitions, and resources; and to fit themselves as fully as possible for their chosen work. Such a conception as this carries with it the ideal of considerable individual freedom of choice of curricula. It implies, too, that when once the youth has discovered the trend of his powers, and made his choice of studies in harmony therewith, no artificial obstacle shall be placed in the way of his continuous and uninterrupted progress. Hence a close and easy articulation and correlation of work should be maintained throughout the entire school course. That is to say, transitions of every kind within the school work and the passage from one grade to another or from one school to another should be made easy and natural.

¹ We are using the terminology adopted by the Committee on College Entrance Requirements: "Three distinct terms seem to be needed: (1) *program of studies*, which includes all of the studies offered in a given school; (2) *curriculum*, which means the group of studies schematically arranged for any pupil or set of pupils; (3) *course of study*, which means the quantity, quality, and method of the work in any given subject of instruction." (Report, p. 42.) Throughout this report, whenever we refer specifically to the general course or special courses in New York City, we shall use the terms used in New York City, but shall use them in the sense of curriculum. In speaking of "a group of subjects schematically arranged," in general, we shall use the term "curriculum."

So, too, as already stated, the newer conception of the aims and purposes of the high school clearly demands that there shall be a closer correlation of the school and social affairs, and that the old type of program of studies which is narrow in scope, circumscribed in appeal, and inflexible in adaptability shall be abolished, modified, or greatly supplemented. The newer conception demands also that the program of studies shall not be of a uniform character for all kinds of schools, but shall have its content and organization determined by the general and the special aims and resources of the particular school in question.

This newer demand does not imply that the school work shall conform to a narrow utilitarian standard. The schools must ever be sources of inspiration and means of assimilating the ideas and culture of the ages just as surely as they must serve to equip directly for existing social needs. The human soul feeds as fully and as universally upon unattained hopes and aspirations as it does upon accomplished achievements. Moreover, "what is one man's meat is another man's poison." Hence any program of studies that is contracted and uniform must of necessity fail to meet the varied needs of many youths who have a right to expect stimulus and nourishment from it.

TYPES OF HIGH SCHOOL STUDENTS

Of the students who to-day enter our high schools, two distinct types may be distinguished. There is, first, a class who have not yet discovered their own powers or their permanent interests. They, for the most part, continue their schooling beyond the compulsory period because time and means are at their disposal. They are not called upon to make an immediate decision respecting their future—whether it shall be centered in further schooling or in vocational activities. It is their expectation (and their due) that the high school shall assist them to self-discovery.

The second type of students consists of those who have before them more or less definite aims which they hope to

realize. They look to the high school, therefore, for specific instruction and training that will prepare them to realize their ambitions. The students of this type may be subdivided into four groups. First, there are those whose course in the high school must necessarily be brief. What they desire and what they are entitled to receive is either a rather broad (though brief) general schooling adapted to their individual interests, or else the opportunity to acquire immediately and quickly a fair proficiency in training looking toward a vocation. The determining factors in shaping their aims are limited means, indifference, or lack of appreciation of the value of prolonged schooling, mental or physical incapacity, or weak moral character. Not infrequently several of these forces are operative in the life of the same person. Justice demands, however, that as varied and as strong an appeal as possible shall be made to their several interests, that each individual may either get quickly what he desires and get out of the school (thus satisfying him and at the same time freeing the school of the burden of ineffective efforts in his behalf) or else that he may be aroused by new interests and ambitions to revise his course of procedure.

A second group consists of those who expect to remain in the high school throughout the usual four years and who look to the school to make them enlightened citizens and efficient workers in various callings. For the members of this class the program of studies must be rich in general training and at the same time provide effective vocational instruction.

A third group of students will consist of future homemakers, whose economic resources are such as to free them from the necessity of engaging in wage-earning occupations, but who look to the high schools to give them the basis of a general culture and the opportunity of acquiring at the same time the special knowledge and training for planning, supervising, and conducting a home.

A fourth group of students regards the high school as a

place of preparation for higher institutions of learning. These students rightly demand that the program of studies shall contain the branches of study required for admission by the various colleges.

HOW THE NEEDS OF DIFFERENT TYPES OF STUDENTS
MAY BE MET

The conclusion therefore seems obvious that the program of studies in our public high schools must be sufficiently broad in scope, intensive in organization, and flexible in administration to meet the varied needs of all classes of students who attend them or can be encouraged to attend them. This conclusion further requires some freedom of election in studies. No other plan permits the attainment of the various aims held by the students of a high school designed for all types of citizens. Only reasonable freedom of choice of curricula and courses of study will give opportunity for self-discovery and self-development, or enable students with well-defined aims to attain the goals which they have set themselves.

Such flexibility gives no warrant for "elective chaos." In order to guard against the abuse of freedom in election by over-specialization at too early a date, or by extreme dispersion of effort throughout the course, election must be guided and restrained. Few high school pupils—particularly at the beginning of their courses—are qualified to select their curricula wisely without advice. Hence each should elect his studies only after conference with competent advisers.

No doubt the persons best fitted to compose an advisory body of this kind are the parents or guardians of the youth, the principal of the elementary school from which the boy or girl has come, and the high school principal (or teachers designated by him). The parents or guardians should be able to indicate their ambitions and plans for the child, and the financial and moral support upon which he may depend. The elementary school principal should be able to

judge the pupil's habits and attainments, and to suggest the fields for which he is probably best suited. The boy himself should be encouraged to reveal frankly his hopes and purposes and to set himself seriously to the consideration of his life plans. The principal or the designated teachers of the high school should point out the large fields of human endeavor and the curricula that lead toward them, suggest the difficulties that mark the way, and assist the boy or girl to make a tentative choice of the curriculum that is to be followed. In succeeding days the principal and teachers should seek to gain a sympathetic understanding of the interests, habits, and progress of their charges in order that, if occasion demands, desirable revision of their curricula and readjustment of their school work may be speedily and satisfactorily effected.

Between the elementary school and the high school as now organized there is need of a transitional grade or school partaking of the character of both primary and secondary education, and serving to make the passage from one type of schools to the other easier and more gradual. This intermediate grade or school should articulate below with the empirical methods of the elementary grades, and above with the more scientific methods of the high school. Here, too, should begin the training in choice of subject-matter and curricula. Here, also, should be given educational and vocational suggestion and guidance. If the departmental plan of organization has not been introduced before this stage, it should find place here. In short, every encouragement should be given boys and girls at this period to continue their systematic education as long as possible, and this can be accomplished only if the school work be adapted to individual aims, interests, and capacities, and be intimately correlated with life experiences.

REORGANIZATION OF THE SCHOOL COURSE ADVISABLE

Thus the social and the personal interests seem urgently to require a reorganization of the entire school course. Out

of this demand clearly emerges the demand for an *einheit-schule*, or for a unified school with a course not exceeding six years in length and including the present lowest six elementary grades. Then, beginning with the seventh grade, school work must be differentiated according to the interests and resources of the community in which the school is established. Evidently, within the intermediate grades, about four distinct types of curricula will ordinarily meet social needs. These curricula may be classified and designated as (1) the academic, (2) the commercial, (3) the boys' industrial, and (4) the girls' industrial curricula. The program of studies for these intermediate curricula must contain not only the worthy traditional elementary studies of the seventh and eighth grades, but in addition much new material that shall appeal insistently to the motor and constructive interests and powers of pupils, and shall (at least in the last three of the four curricula suggested) assume a quasi-vocational character.

Likewise, within the high school proper, the individual needs of the pupils demand that the program of studies shall be organized into a number of distinctive curricula, each centering about a special field of knowledge as a core; and that relatively easy transfer from one curriculum to another shall be permitted. No eighth grade or ninth grade pupil can select the curriculum that will indisputably yield the most value to him, nor is greater certainty of an infallible judgment obtained if the selection be made by adults. Hence, although needless and irrational diffusion of effort must certainly be avoided as far as possible, nevertheless an unfortunate choice of curriculum at the beginning of the pupil's career ought surely not to bind him for the entire four years and thus possibly inappropriately determine his course in life.

The curriculum of each individual pupil ought, as already shown, to be so organized as to contribute to two main aims in addition to possible minor aims. These are (1) to open to every pupil a vision of the entire field of knowledge and

attainment and to give to each one an opportunity to test his own aptitudes and capacities in all these; and (2) as the direction in which the pupil's talents lie becomes apparent, to furnish him with the completest training in that direction that the high school is capable of providing. That is to say, even in the high school each pupil's curriculum should contain both general and special elements—both the work that makes for breadth of view and the work that makes for depth of insight and skill. Hence every curriculum (other than the distinctively vocational) should contain representative subjects from each large department of human experience, and at the same time, in response to individual aptitudes, should offer both extended and intensified work in the field of the pupil's dominant interests.

Theoretically there should be a distinct curriculum for every student. The only possible way to realize this ideal is to permit each student to select his curriculum for himself. This, however, as already shown, can safely be done only under the guidance and supervision of sympathetic, trained adults. Economy of administration, on the other hand, compels the setting of reasonable limits to the election of studies even under supervision. Hence, usually, each curriculum will of necessity come to contain a minimum of prescribed units of work in a concentrated or specialized field of study, a minimum of prescribed units of work in different fields of study, and a freely selected group of units of work.

Under such an organization and administration of the program of studies the following curricula should doubtless be found in nearly every moderately large high school of the composite or general type: namely, (1) English, (2) ancient foreign language, (3) modern foreign language, (4) history, (5) mathematics, (6) science, (7) manual arts (for boys), (8) practical arts (for girls), (9) fine arts, (10) commercial studies. In very large city schools of the cosmopolitan type the specialized curricula may wisely be made even more discriminating. In such schools not only

may the curricula be multiplied in number, but within each one may appropriately be included both extensive general courses giving instruction in the major subject, and also advanced intensive courses dealing with special aspects of the subject. Thus, for illustration, in addition to the "science" curriculum may be found curricula centering about the various subdivisions of the subject, as electricity, mechanics, chemistry. Similarly the "manual training" curriculum may be differentiated into more specialized curricula. The "mathematics" curriculum may appropriately contain not only the usual high school courses, but also trigonometry, analytics, calculus, and actuarial work. The curriculum of "fine arts" may fittingly include the history and the principles, not only of music, painting, ceramics, sculpture, and architecture as wholes, but also of specialized divisions of such studies. In like manner each of the other departments of work may be differentiated and courses organized to meet the needs of each particular school.

Doubtless, within the specialized curricula of these kinds the proportion of time devoted to the major subject should approximate a fourth or a third of the total time allotment. Of the remaining time at the disposal of the pupil, fully one half can appropriately be assigned to subjects cognate to the major subject. The remaining time should then be distributed among unrelated fields of study or be left open for free election of work. Thus, within a four-year high school course in which the requirements for graduation are 32 "credits" or 150 "points," the distribution of work among the various subjects in the program of studies would be represented in some such table as the following:¹

¹By "credit" is quite commonly meant the successful pursuit of a subject to which is assigned four or five class exercises per week throughout one half-year. Four credits are normally earned each semester. Wherever the number of weekly class exercises are not uniformly the same among the several subjects of study the "point" system is frequently adopted, each class exercise per week throughout the semester yielding a definitely assigned number of points.

Major subject.....	8 to 11 credits or 35 to 50 points
Cognate subjects.....	11 " 12 " " 45 " 60 "
Elected subjects.....	11 " 12 " " 45 " 60 "

In addition to the distinctively specialized curricula, other curricula of a general character or curricula fashioned to lead to definite goals should find place in the organization of each moderately large school. Among the curricula of this type may be mentioned the following: literary or journalistic curricula, college preparatory curricula specifically so named, and curricula leading to the city normal training school.

Finally, within specialized high schools, as found in some of the largest cities, differentiated curricula are needed. Here the organization should differ little from that employed in the large cosmopolitan schools of a general character, except that a greater degree of specialization can be justly demanded. Thus, within the technical high school, so called, may be found several differentiated curricula in commercial work, manual arts for boys, and practical arts for girls. Within a high school of commerce, curricula may properly be organized emphasizing banking and finance, trade and transportation, actuarial studies, and similar subjects. The same principle of differentiation can likewise be employed within each of the other specialized high schools.

Hence, to summarize, every high school pupil is entitled to a course of training that will broaden his mental and social horizon, reveal himself to himself, and develop and discipline to the utmost the worthy capacities and potentialities that lie within him. In order that this ideal may be realized, a program of studies must be provided that is broad in scope, that is organized with reference to the varied needs of the individuals and the community which it is designed to serve, and that is administered in a flexible manner through a wise recognition of the election or choice of studies, both in the general, or cosmopolitan, high schools and in special high schools.

CHAPTER III

THE SPECIAL ASPECTS OF THE PROGRAM OF STUDIES

IN the preceding chapters it has been shown that the needs of society and of individuals demand that modern secondary schools shall offer a comprehensive program of studies, organized and administered in a liberal and flexible manner. It is clear that a wise administration of a flexible program of studies is dependent on an evaluation of the various subjects within the program of studies; i. e., on a clear recognition of the special function of each of them. The present chapter attempts a series of brief analyses of this kind.¹

First of all, it is conceded that the educational value of any given subject of study in the schools is dependent chiefly on the responses aroused within the student. It is further clear that such responses depend upon the degree of interest developed; that any real, permanent interest in a school subject is again dependent upon the degree to which the pupil comprehends it and perceives it to be related to the life activities surrounding him; and that, finally, its educational value depends also, to a very great degree, on the personality, equipment, and skill of the teacher. Nevertheless, each subject in the program of studies differs intrinsically from every other in respect to the educational values it may be made to yield.

¹ The writer disclaims any intention of making a critical psychological study of these important questions; he has sought merely to present a short administrative formulation of some commonly accepted conclusions that commend themselves to his judgment.

STANDARDS OF VALUE FOR SCHOOL SUBJECTS

Shorn of all contributory factors, each school subject may be judged, with reference to its educational value, as follows:¹

First. A subject may possess auxiliary value, *i. e.*, value in helping to get the full value from other school subjects. Thus, geometry possesses auxiliary value for the study of physics; history auxiliary value for the study of literature; and a foreign language auxiliary value for the study of the vernacular.

Second. A subject may possess practical or utilitarian value. By this expression is here meant the knowledge or power that can be utilized outside the schoolroom, immediately or later on, in gaining a livelihood or in adding to one's material advantages. Thus, hygiene, physics, English, manual training, and civics possess intrinsically varying degrees of practical values, depending on the person pursuing them, the purpose with which they are pursued, and the content and method employed.

*Third.*² All subjects possess, in varying degrees, intellec-

¹ In the very nature of the case the several groups of values are not delimited by clear and distinct boundaries. Elements, therefore, that are assigned to certain groupings by the present writer might with equal propriety be classified differently by another writer.

² Doubtless, for the most part, mental disciplines are specific, not general. Nevertheless, in so far as the mental processes involved are similar and the data acted upon possess common elements, the specific disciplines yield general psychological value. Hence any subject of study that develops mental power in varied ways or to a notable degree in limited ways must receive large consideration in planning the education of any individual.

The caution must, however, be urged that the intellectual value of a subject of study depends largely upon the methods employed in teaching it. While literature, for example, may be made to appeal to the imagination, it may also be made to appeal to the reason, and hence may exercise both those powers. Literature can give little direct help in training the power of observation of material things. Yet it can be taught so as to stimulate the observation of nature and of the physical traits of individuals, and hence can be used as a means of cultivating the power of observation. What is true of literature is true of all other subjects. In estimating the intellectual values of the various subjects, therefore, equally good teaching must be presupposed for all, and the value computed upon the intrinsic worth or qualities of the subject matter alone.

tual value, or the quality of developing the power to think. The training only is what is meant here by intellectual value, whether that training be specific or general; this classification does not take account of the value of the subject as knowledge. For example, the intellectual value of a subject is found in the extent to which it develops the following powers:

- (a) Observation, or the ability to take note of the details of an object or a situation.
- (b) Attention, or the ability to concentrate the mind upon the object, event, or process under consideration.
- (c) Perception, or the ability to interpret a present sensation by organized earlier experiences.
- (d) Analysis, or the ability to separate an entirety into its constituent parts.
- (e) Comparison, or the ability to bring different elements into common view.
- (f) Discrimination, or the ability to select essentials.
- (g) Imagination, or the ability to construct mental pictures.
- (h) Conception, or the ability to formulate general notions.
- (i) Association, or the ability to relate mental contents and processes.
- (j) Judgment, or the ability to formulate conclusions respecting two or more percepts or concepts.
- (k) Reason, or the ability to formulate a series of connected judgments.
- (l) Memory, or the ability to recall mental contents and processes once they have passed out of consciousness.
- (m) Expression in oral, written, and graphic forms.
- (n) Resourcefulness, or the power to meet a situation and to adapt means to ends.

Fourth. A subject may possess political and civic value. Such a subject fosters an interest in the institutions of the

state and municipality, and inspires a feeling of loyalty to them. It also possesses the power of developing such qualities as civic pride, public spirit, civic consciousness, patriotism, respect for law, and political responsiveness. The ideal sought through such studies is good citizenship.

Fifth. A subject may possess social values, because it develops the power to make social adjustments with ease and readiness, and thus removes a source of social friction. Such an ideal does not ignore the value of individuality; it seeks rather the adjustment of individual traits to social ends. It includes the development of such personal qualities as toleration, sympathy, consideration for the rights and opinions of others, courtesy, graciousness, tactfulness, fairness, and coöperation. On the negative side the ideal may be expressed by the motto, "Live and let live"; on the positive side, by the Biblical conception of neighborliness.

Sixth. A subject may possess ethical value, that is, social value viewed from the standpoint of morality. This means the power to stimulate and develop those personal qualities which collectively constitute good character. These qualities include (among others) :

courage	sagacity	justice
temperance	accuracy	benevolence
chastity	thoroughness	integrity
honor	punctuality	magnanimity
self-sacrifice	forcefulness	faithfulness
self-control	industry	truthfulness

The ideal to be sought under this caption of values expresses itself in the maxims, "To thine own self be true" and "Whatsoever ye would that men should do unto you, do ye even so unto them."

Seventh. A subject may possess religious value. By this is meant the power to develop a spirit of reverence, devotion, and submissiveness to the Deity; faith, trust, and confidence in some phase of organized religion; and an acceptance of religious obligations, with a readiness to coöperate in religious undertakings and ceremonies.

Eighth. A subject may possess æsthetic value. This concept includes the idea of a power to stimulate a love for the beautiful in its various forms—material, intellectual, and spiritual—and a personal conformity to the accepted laws of good taste. The æsthetic appeal is chiefly to the emotional side of human nature, and involves an appreciation of the elements of material, color, arrangement, and proportion.

Ninth. A subject may possess conventional value, that is, the power to develop the graces, manners, and conventions that give standing in polite society. Conventional value is also realized in the prestige which the pursuit of certain subjects gives to the individual pursuing them. The value of such training lies in the fact that certain forms and standards of conduct and certain stock information are traditionally and conventionally expected of educated persons.

Tenth. A subject may possess cultural value (in the narrow meaning of the term). By this is meant the quality that directly and immediately satisfies, that finds its end chiefly, if not solely, in the pursuit of the subject for its own sake, or that prepares for the enjoyment of leisure. Such a value considers only the egoistic happiness or enjoyment of the individual acquiring it; seeks truth for truth's sake; or stops at the mere sentimental or intellectual interest aroused.¹

No one subject in the program of studies possesses notable educational value in all ten of the categories mentioned,

¹ The word "culture" is to-day a very equivocal term. In a broad sense it is nearly synonymous with what in this chapter has been styled "intellectual" training; but in its very broadest connotation it means the training and refinement of mind, morals, and tastes. If used in this sense, all civilized men possess some culture; they differ from each other in the scope and degree of culture possessed. Fairly considered, therefore, he who has incorporated into his character and life the ten educational values above mentioned, and has realized them to the fullest degree, has attained to a high stage of culture or education.

Throughout the remainder of the chapter the word "culture" will be used only in its narrower signification.

or possesses the same degrees of value in each of the several categories to which it belongs. Neither should each of the ten categories be accorded equal importance in evaluating the significance and worth of any subject. Even a small degree of social value, for example, may much more than counterbalance a high degree of conventional value. Nor is it possible to assign numerical grades of value to any subject. With interest present (that is, aptitude and responsiveness in the pupils) and good teaching, it is possible that any subject may have educational value; with interest lacking, it is doubtful if any subject yields much value.

Nevertheless, it may be worth while, ignoring special individual aptitudes and special individual school aims, and considering only the typical boy or girl, to weigh each subject in the scales of the ten categories, and to rate the values in terms of "high," "moderate," and "low." The sum total of values of any given subject will, at least, furnish food for reflection. Is a given subject worth an extensive course in the program, or only a short single-term course? Shall it be prescribed for all students? If so, how much prescribed work shall there be?

The following table will make clearer how such a weighing of values may be attempted.¹

CATEGORIES OF EDUCATIONAL VALUE

	1	2	3	4	5	6	7	8	9	10	
	Auxiliary	Practical	Intellectual	Political and civic	Social	Ethical	Religious	Æsthetic	Conventional	Cultural	Administrative conclusions
Algebra.....	Mod.	Low	Mod.	Low	Low	Low	Low	Mod.	High	Mod.	?
1st yr. Latin.....	Mod.	Low	High	Mod.	Low	Mod.	Low	Mod.	Low	Mod.	?
Ancient History...	Mod.	Low	Mod.	High	Low	Mod.	Low	Mod.	Mod.	High	?
English Literature...	?	?	?	?	?	?	?	?	?	?	?
English Composition and Rhetoric	?	?	?	?	?	?	?	?	?	?	?
Stenography.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drawing, et al.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ The values assigned are purely for illustrative purposes.

To recapitulate, educational values derivable from the pursuit of the various school subjects may be said to depend upon at least six essential factors. These are:

- (1) The native capacities of the student pursuing the subject.
- (2) The purpose or aim with which the subject is pursued.
- (3) The content of the subject itself.
- (4) The organization of the subject itself.
- (5) The personality and methods of the teacher.
- (6) The character and completeness of the reactions of the student.

EDUCATIONAL VALUES OF SUBJECTS IN THE HIGH SCHOOL PROGRAM OF STUDIES

It is conceivable that the educational values of the various school subjects may be scientifically determined. Such scientific determination has not been made. Hence, in advance of objective standards, all that we can do is to rely on well-balanced opinion. In the nature of the case, that opinion is the judicial opinion of educational specialists and thoughtful laymen. Accepting, therefore, such opinion as a basis of classification, an attempt is made in the following pages to enumerate the educational values of each of the several subjects in the high school program of studies. These statements of value are supplemented in each instance by a brief statement of the most prominent aims of the subject and by a survey of the scope of the work. No attempt, however, is made to give a complete and exhaustive analysis of the work undertaken in each department.

English Composition and Literature

Of all the subjects in the program of studies, none occupies so conspicuous a place as English—a natural position, since, for English-speaking people, English is the medium for the dissemination of knowledge respecting all arts and

sciences and mental disciplines. Under this heading are to be found the four fundamental aspects of language-study—namely, grammar, composition, rhetoric, and literature—and not unfrequently, also (though often incidentally), orthography, oral reading, voice culture, elocution, oratory, and debating. Although the four fundamental aspects usually appear in the high school as a crescendo, in the order given, through three or four years, nevertheless they cohere closely and cannot wisely or feasibly be sharply delimited. To attempt to isolate them in treatment implies a false conception of English and must lead, at best, to inadequate results.

On the expressional or formal side of English as taught in the high school, the greatest attention is given to story telling, letter writing, description, narration, exposition, and argumentation; while on the impressional or content side the work includes the reading and analysis of short stories, novels, poetry, dramas, biography and history, expositions, argumentations, and essays of a literary, historical, or scientific type. In the third and fourth years the courses center about the history of American and English literature, and an attempt is made to supplement the grammatical, analytic, and productive work with critical interpretation and judgment of the literature of various historical periods.

The specific aims most frequently announced for the courses in English may be stated as follows: (1) to train pupils to speak clearly and correctly, and to write simple, natural, and forceful English prose; (2) to give a familiar acquaintance with some of the great masterpieces of English literature; (3) to foster a taste for good literature and to strengthen the power to interpret and appreciate it when read; (4) to develop the ability to criticize with fairness the writings of others, and in particular to aid the student to select from the mass of current writings those that are essentially worthy; and (5) to arouse in pupils social, political, æsthetic, ethical, and religious ideals that shall serve as guides to them through life.

It is, therefore, obvious that the educational values implied in a complete course in English throughout the four years of high school education include all the ten groups of values heretofore mentioned. Moreover, these values, it is commonly alleged, are realizable in a very marked degree in each group. The intelligent teacher of English will recognize that his subject is necessarily auxiliary to all other subjects, while at the same time it is not subordinate to any of them in comprehensiveness of content, or in disciplines, or in worthiness of influences. The directly practical or utilitarian value of English (particularly on the formal or expressional side) is obviously large for all whose livelihood depends on activities other than those of the unskilled and routine types. The intellectual values reveal themselves in the development of powers of analysis, comparison, constructive imagination, judgment, reason, memory, and precision in oral and written expression. Moreover, the material chosen for the exercise of these mental disciplines may have in itself the highest intellectual value.

Among the social and political values attainable through the study of English are the ability to analyze and judge human character, to fashion ideals of social and political relationships and institutions, and to cultivate a liberal and tolerant attitude toward others; while the use of good English in conversation and correspondence has a real (and conventional) value of the highest importance.

Æsthetically, the appeal of English is strong. Based upon any theory of æsthetics that may be accepted, literature stands high in the scale of the arts; it makes an appeal to all who read it, the untrained as well as the trained. In literature are revealed in beautiful forms the ideals, aspirations, and thoughts of the race; in it are disclosed the laws of art; through it the well-springs of the emotions are stirred, and definite responses to the laws of good taste are secured.

The moral and religious values of the study of English are unquestioned. Through it may come the development

of personal inspiration, higher ideals of character, a stirring of one's nobler qualities, and the recognition of the relationship of the seen and the unseen; for within the pages of literature the more vital and inspiring records of man's moral and religious aspirations and life are to be found. Indeed, to create out of the life of the world an image of human perfection is one of the highest recognized aims and functions of the study of literature.

Finally, on the purely cultural side, the study of English yields pleasure and solace to the reader or writer, stirs him to a recognition of the achievements of the race and of the power of the individual in promoting them, and spurs him on to higher personal attainments. The mastery of the formal elements in the study enables the student to make a record not merely of objective things as outward events, but also of the "incidents of the mind"; while the mastery of the imaginative elements of the study tends to free the mind from the purely mechanical grooves and laws of science and of the world of fact, and to lift it into the realm of idealism.

Hence the courses in English in the high school possess values that are varied, strong, and enduring; and they are entitled to the prominent place in the curricula which they now occupy.

Public Speaking

Whenever public speaking in the high school is assigned a course separate and distinct from the general course in English, the conscious aims most frequently set up for guidance are: (1) to awaken and train the expressional power of the mind; (2) to deepen and broaden the appreciation of literature and art; (3) to develop the knowledge of self and to give command over self; and (4) to give power of initiative and leadership among men.

The scope of the work includes drill in the art of vocal expression; effective speaking; debate and parliamentary law; salesmanship; dramatic interpretation; and æsthetic

reading. All courses are, as a rule, conducted with a minimum of theory and instruction, but with a maximum of practice and training.

The alleged values of work in public speaking are the same as those for the general courses in English, but with a greater claim to practical, æsthetic, and social values. Thus, to quote from a recently issued high school announcement:

“The study of masterpieces of literature with the endeavor to understand their truth, beauty, and purpose, and to express these in voice and body, deepens and widens appreciation of literature and art. More than this, it leads to a fuller self-knowledge and self-command, enabling the student to correlate sanely his own experience and his own thought to the universal life of humanity, and to prove this knowledge to himself by his ability to manifest himself, his true self, in terms of truth, power, and beauty.”

Ancient Languages

The professed aims of the courses in ancient languages (Latin and Greek) in the high school are: (1) to inculcate habits of accurate thinking, particularly in respect to the powers of concentration, observation, analysis, discrimination, inference, and precise formulation and expression of ideas; (2) to help in the study of English and other languages; (3) to acquaint the pupil with the ideals and customs of classical civilizations and to give him a consciousness of what the civilization of to-day owes to the civilizations of Greece and Rome; (4) to inspire to high ideals in individual and social life; and (5) to give the measure of culture which a study of ancient masterpieces provides.

The scope of the work, running through two, three, or four years of the high school, is probably more nearly uniform throughout the land than is the work offered in any other department. It includes the mastery of language-

forms and grammatical rules, and the study of selections from various Latin and Greek authors, the most notable of which are Cæsar, Cicero, and Virgil in Latin, and Xenophon and Homer in Greek.

The values most commonly claimed for the ancient languages are auxiliary, intellectual, social, political, æsthetic, ethical, and cultural. The auxiliary value is realized most completely and most directly in the study of English and the modern foreign languages, but it also finds justification for its claims in the study of science and history. The fundamental principles of language structure are similar among nearly all Indo-European nations; and the grammatical forms and rules of the Latin and Greek languages, especially, possess an intimate relationship to those of our vernacular. Moreover, English diction is in a large degree developed from Latin and Greek roots and stems, and hence the study of these languages gives an interpretative basis for many words and expressions in English speech. An acquaintance with Latin is particularly necessary to prospective students of science, law, medicine, and theology. In short, the old maxim, "He who knows his own language only does not know even that language," is as true to-day as ever, and gives ground for incorporating Latin or some other foreign language into the curriculum of each pupil.

The political, social, ethical, and æsthetic values of the ancient languages are not greatly different in character from the same values found in the study of English. Certainly the classics possess the quality of inspiring to high ideals of law and order, devotion to duty, love of country, social solidarity, social responsibility, honor, justice, and beauty of form and proportion, provided that they are pursued sufficiently long to yield these values. Moreover, he who is trained only in English is similar to a person who has lived only in his native land and has never visited foreign countries. Neither is able to appraise political, social, ethical, and æsthetic ideals and forms at their full intrinsic values. The study of a foreign language tends to correct

this deficiency, and in this respect the ancient languages have claims superior to modern foreign languages, since they provide a twofold broadening—not only a change in locality, but also a change of time. As ex-Ambassador James Bryce states the claim, the ancient languages furnish “a double element of remoteness.”

In respect to intellectual values, Latin and Greek take a high place. The disciplines of observation, concentration, analysis, comparison, inference, judgment, memory, and reason, and the development of clear and precise forms of oral and written expression are all particularly involved in the study of the classics, and to an unusually high degree. A pupil trained in Latin or Greek should develop orderly, discriminating, and accurate habits of mind, and in consequence should tend to become a more precise, forceful, and lucid thinker, speaker, and writer. To quote from a recent book: “Even a single year in Latin, under the instruction of an inspiring teacher, should prove of great gain to our English-speaking pupils. To recognize the significance of its highly inflectional character is at once a training in precision in thought, and a valuable introduction to all foreign language study. The deliberation with which perforce we must proceed to unravel the meaning of a Latin sentence is a new and striking experience.”¹

Present psycho-pedagogical studies, however, do not support the claims often made for Latin and Greek by extreme disciplinists. They do not accord to these subjects all the psychological values allotted to them by their radical friends, or grant to them the degree of uniqueness that is sometimes ascribed to them. In consequence of this, administrators, while fully acknowledging the benefits of ancient languages for certain types of mind, recognize the fact that to-day the high schools are attended by classes of students whose native capacities and practical interests require a different curriculum from that which was formerly considered adequate. Hence, the conclusion is generally accepted that the intrinsic

¹ Sach's *The American Secondary School*, p. 25.

values of Latin and Greek are not realizable by all types of high school students to such an extent as to make the election and pursuit of these subjects the most profitable to them.

On the purely cultural side it is claimed for Latin and Greek that they are, for those who master them, unfailing sources of intellectual and emotional satisfaction. Their literatures, constituting two of the three greatest national literatures of the world, offer a rich field for the student of leisure; while the language and literary forms employed by the ancient civilizations set standards for all time, challenge improvement, and stimulate to effort.

The following statement of the values claimed for Latin courses in the high school is typical of all.¹

"It is the firm belief of most thinking men who have studied Latin that the mental discipline acquired in that study is unique, and is of incalculable value. Grammatical study, says Lord Morley, teaches 'habits of accurate distinction which mark the difference between slovenly and orderly minds.' Translating is a strenuous intellectual exercise. It involves the mastery of the thought in the Latin dress and the reclothing of it in a form so different as English. Latin is the mother of languages. Even a slight knowledge of the tongue gives one an insight otherwise unattainable into the principles and the processes of language growth. The light thus thrown upon the derivation and meaning of a great many English words is of the greatest practical value. Furthermore, Latin was the language of government, learning, and religion until modern times, the language of the world-conquerors and world-civilizers of ancient times, the main channel through which the great intellectual possessions of the ancient world were transmitted to us. Some sense of these great facts is borne in upon the

¹Quoted from the Los Angeles Courses of Study for 1912-1913.

consciousness even of the beginner in Latin, enlarging mightily his mental horizon. Moreover, the student of Latin studies one of the world's great literatures, with its own peculiar elements of dignity and power. Our age, with its excessive individualism, with its extravagance and exuberance, needs the corrective of the classical ideal. Restrained, self-conscious, clear-eyed, conservative, it is loyal to what has been proven good, with its profound sense of duty and its keen sense of solidarity."

The specific aims of the courses in Greek are similar to those of Latin. The two languages, literatures, and civilizations are closely related. Hence, the peculiar merits of the two languages as branches of study in the high school are supplementary, but not identical. The Greeks developed forms; the Romans relations. The Greeks were originators and established standards in literature, art, education, philosophy, and social customs that are accepted to-day. The Romans were organizers and administrators and hence developed principles and policies of practical procedure. In consequence of their differences in temperament and environment, the spirit, structure, and movement of their languages are unlike. In forms of expression the Greek language resembles the English closely; the Latin is unlike both. Hence, the values inherent in the courses in Greek are worthy of separate consideration in planning curricula.

Modern Foreign Languages

The aims of the study of modern foreign languages in the high school may be stated thus: (1) to enable students to acquire a practical knowledge of the languages applicable to commercial and industrial needs and to the needs of travelers in foreign countries, and to facilitate communication with foreigners who have found new homes in America; (2) to develop the mind by the discipline "peculiar to the study of foreign language"; (3) to help in the study of English; (4) to acquaint the pupils with the ideals, civiliza-

tions, and literatures of foreign lands, and to develop a tolerant, sympathetic interest in their peoples and their customs; and (5) to foster a national and international spirit of coöperation and comity.

German, French, and occasionally Spanish, are the modern foreign languages found in the program of studies in the high schools. As in the study of ancient languages, the work consists of the mastery of grammatical forms and modes of expression, and of the study of literary selections. Attention is given to vocabularies, correct pronunciation, grammar, oral and written composition, literature, and the exposition and evaluation of foreign ideals, customs, and institutions.

The values claimed for modern foreign language study are similar to those claimed for ancient languages—with the additional claim to a greater degree of practical and social value. As auxiliary studies these languages possess values in aiding the pupil to acquire a greater command of the principles and forms of the English language and of other foreign languages that may be studied; and, if pursued intensively enough, in acquiring, through their literatures, a clearer knowledge of the sciences, arts, philosophies, and civilizations of the world. For those who engage in literary, professional, or industrial work that involves a reading, writing, or conversational knowledge of the modern languages, those languages have much practical value; for others, the practical value is small. The intellectual values ascribed to these languages are similar to those of the ancient languages. Owing, however, to the greater simplicity of their grammatical forms, the demand on the pupil for prolonged concentration, critical analysis, judicial deliberation, discriminating judgment, and precision of expression is less exacting than in the study of the ancient languages. Hence, these disciplines are not infrequently held to be realizable in a less degree through the pursuit of the modern foreign languages than they are through the study of the ancient languages. On the other hand, by

reason of this very simplicity of inflections, the command of complete sentences is facilitated most in the modern languages, and this acquisition is an indispensable achievement in the real mastery of any language.

The political and social values of modern foreign languages are notable. By means of the study of these languages the ideals and hopes of our foreign-born population are made more comprehensible to our native-born citizens, and hence a greater degree of national solidarity is made possible and probable. By means of these studies the ideals of devotion to duty, love of country, and loyalty to the institutions of the state are fostered in an unusual degree, since the conditions giving rise to these ideals in European countries bear an intimate relation to contemporary conditions in America. By means of these studies a keener insight into the racial temperaments, national aspirations and achievements, and social forms and customs of foreign peoples is secured; and a broader toleration for their views, a juster estimate of their ideals, and an appreciative understanding of their customs are developed. As a result of this knowledge a feeling of human kinship is fostered, and an interest in international comity and intercourse is stimulated.

On the æsthetic and the purely cultural sides German, French, and Spanish claim values not greatly different from those of Latin and Greek. Art, in particular, and the literature of art have in many respects attained a higher development in modern Europe than in any other time or place. Moreover, each of the nations whose languages are studied in the American high school possesses other literature whose content and messages, as a whole, and in detail, have a vital and direct bearing on the cultural interests of America.

Mathematics

The branches of mathematics commonly taught in the high school are algebra, geometry, and, at times, advanced

arithmetic, commercial arithmetic, and trigonometry. It is usual to accord three or four years to these branches, two or three years of which are conditionally prescribed for all students. The values claimed for the courses in this department include the auxiliary, practical, intellectual, ethical, conventional, and cultural. Many mathematicians also lay great stress upon the æsthetic and religious values of mathematics.

The aims most frequently announced for the courses in mathematics in the high school are: (1) to develop ability to think and express thought clearly, accurately, and concisely; (2) to give knowledge and training in the solution of quantitative problems arising in everyday life; (3) to give to pupils some idea of the importance and significance of mathematics in modern science, industry, and business; (4) to foster ideals and habits of accuracy, thoroughness, neatness, order, and proportion; (5) to supply a content and training that shall yield personal gratification to the student pursuing the subject.

The auxiliary value of mathematics is obviously large for all work in the pure and applied sciences, particularly in the physical sciences and the earth sciences. Indeed, without a basic knowledge of mathematics the secrets of physics, chemistry, astronomy, geology, and physiography are, in a large degree, undiscoverable by the pupil; while the principles and processes involved in drawing, manual arts, domestic arts, agriculture, architecture, and engineering are impossible of comprehension in any other than a rule-of-thumb manner unless correlated with mathematics and interpreted by it. Moreover, mathematics has throughout the ages been instrumental in the exploration of fresh fields of thought and has aided in giving a "better comprehension of the scheme of the universe."

The directly practical value of algebra is small; that of commercial and advanced arithmetic, geometry, and trigonometry is large, depending on the extent and degree to which the content is organized with reference to the solu-

tion of quantitative problems arising in everyday life. For the prospective workman in commercial, industrial, semi-technical, and technical fields these aspects of mathematics are indispensable.

The social value of pure mathematics is small, yielding its only contribution to this group of values through the degree to which, in teaching the subject, the history of mathematics is emphasized and the importance and significance of mathematics in its applied forms are set forth. The conventional value of mathematics is doubtless large, but a critical examination of this conventional value will show that it ought to have little real influence in planning a curriculum.

On the ethical side mathematics tends to stimulate ideals of intellectual truthfulness, accuracy, and definiteness, but relates itself only slightly, if at all, to the altruistic virtues. Many mathematicians of the present and of the past have also accorded to the subject religious value of unusual worth. "The contact with truth, absolute and eternal, lifts the mind out of its ordinary channels into contemplation of the eternal of the universe."¹ As a cultural subject it inspires to truth for truth's sake and furnishes an intellectual satisfaction in the mastery of difficult problems, which, for some persons, is comparable to the pleasure afforded others by poetry, art, and music. In a degree, such an appreciation of the subject is possible even for the average high school pupil, and opens to him new intellectual interests. As a subject furnishing æsthetic value the importance of mathematics has doubtless not received full credit. The ideals and pleasure which many derive from the contemplation of certain mathematical truths and theorems, and of the remarkable connection between apparently unrelated subjects, constitute æsthetic experiences of highest import. "The reign of law apparent in mathematics is satisfying to the reason."

¹ L. C. Karpinski in Johnston's *High School Education*, p. 132.

But, however positive may be the educational values of mathematics already mentioned, the alleged value that has anchored the subject so firmly in the high school curriculum is the intellectual value. To quote from one writer only is to give what was long the typical attitude of most of the radical friends of this subject. He says:

"In training the faculties and powers of the mind in quick, accurate, discriminating apperception, in accurate demonstration and careful expression, in logical argument and close, connected, logical thinking in which conclusions can be verified, the study of mathematics is unexcelled. High school pupils derive benefit from the study of mathematics by the cultivation of the faculty of exactness and truthfulness, of readiness and rapidity in thought and action, and in the development of the powers of original thought, reasoning, drawing correct conclusions from given conditions, and the formation of habits of clearness, definiteness, and accuracy in oral and written expression."¹

It is precisely claims like the above that have led those who doubt the full validity of the theory of formal discipline to question the value and importance of mathematics as a prescribed subject for all high school pupils. Undoubtedly mathematics does furnish exact assumptions within its own field from which unquestionable conclusions can be reached by strictly logical processes; and thus its study tends to produce in students habits of clearness, definiteness, and accuracy of thought and expression in the field of mathematics, and in fields of study closely related to mathematics. Whether these powers and habits of thought and expression extend beyond those fields, however, is by no means certain. Some experiments seem to show that they do not; and, at best, psychologists are far from agreement on this question. Certain it is that the

¹ From a recently issued high school bulletin.

variety of intellectual disciplines in mathematics is small, and in consequence the range of its appeal is limited. Hence, it seems indisputable that for many types of mind the realizable intellectual values are slight, and therefore a uniform prescription of three years' work in this department for all pupils is unpedagogical.

History

The scope of the work in history in the high school extends, as a rule, over three years, and not infrequently over four years. As commonly organized, a year is allotted to each of the following: ancient history, medieval and modern history, and United States history and civics. If a fourth year's work is provided it usually centers about English history, or occasionally about French history, or industrial and commercial history.

The aims of the study may be formulated thus: (1) to give pupils an appreciation of the social and spiritual evolution of the human race, and the important influence that individual members of society are capable of exerting on the progress of civilization; (2) to assist pupils to an understanding of the character and functions of existing social institutions and activities, and to aid them to adjust themselves more readily and completely to them; (3) to give pupils a basis for anticipating, in part, the trend of future events, and thus to help them to plan their careers more intelligently; (4) to inspire pupils with ideals of personal and social worth and to arouse them to effort in the coöperative undertakings of society; (5) to give a fund of relatable, usable knowledge, and a background for the study of all other branches of instruction; (6) to secure mental training, particularly with reference to the powers of social analysis, comparison, constructive imagination, inference, and judgment; to develop an historical attitude of mind, and, in general, to cultivate an appreciation of the significance of historical studies and an enjoyment of them.

The values claimed for the courses in history in the high school include nearly all the values listed under the ten categories mentioned on page 26, and in each category the estimate of worth is usually placed as "high," or at least as "moderate." Thus, history is said to possess large auxiliary value; various kinds of intellectual value; a very high degree of social, political, ethical, and religious value; superior worth as a means to æsthetic inspiration; and notable importance in giving practical, conventional, and cultural training. History is an important agent in unlocking the secrets of other departments of knowledge; it gives an interpretative basis for the pursuit of all branches of study, and is intimately correlated with English literature, the fine arts, ancient and modern foreign languages, and the sciences. For an adequate understanding of civil government and many current topics and events it is in the highest degree essential.

On the directly practical or utilitarian side the customary courses in history, as usually organized and presented in the high school, have little value. Nevertheless, they yield a fund of knowledge that tends to give a clearer insight into many daily tasks, and, if presented with reference to specific occupations, possesses no inconsiderable practical worth. The courses in industrial and commercial history in particular yield goodly amounts of such values. On the conventional side the study of history takes rank above almost every other subject except English, being an indispensable element in the training of all liberally educated persons.

As a means of intellectual training history yields a peculiar kind of discipline—a discipline in dealing with human affairs and institutions. History deals preëminently with sequences in human affairs, and hence calls for the continued exercise of the powers of analysis respecting the causes and effects of feelings and motives, institutions, and conduct. It likewise demands the employment of the powers of constructive imagination, comparison, and discriminating

judgment. The student of history is forced to visualize past events, compare and contrast these with other events, deduce conclusions respecting principles of procedure, and foreshadow possible and probable conditions respecting the future. The study of history therefore tends to produce the judicial mind—the mind that impartially considers all the significant facts relating to a problem, scrutinizes them from various points of view, accords due validity to each group of elements, and forms its judgments in the light of the evidence. In short, since history deals with recurring problems in human life, the study of history develops those intellectual powers which best serve the pupil in solving contemporary problems. To quote from the Report of the Committee of Ten¹: “In almost every other subject taught in the grammar school the basis of knowledge is fixed; history properly taught offers the first opportunity for the growth of discriminative judgment; it should train pupils to throw away the unimportant or unessential and to select the paramount and cogent; . . . that is, through history a child should be taught to exercise those qualities of common sense, comparison, and plain everyday judgment which he needs for the conduct of his own life.”

On the social, ethical, and political sides the values derivable from the study of history are incomparable in variety and strength. Accounts of the deeds of men and women who have struggled unselfishly and nobly have a charm for youth, fill it with aspirations to emulate the lives of those who have wrought benefits for their fellowmen, and inculcate faith and courage in striving to realize such aspirations. Again, history shows, as no other subject of study does, that man is a gregarious animal and cannot successfully and happily live alone; it reveals the interdependence of men, and shows that while in union there is strength, in disunion there is weakness—possibly death. It extends the pupil's horizon, deepens his sympathies for his fellowmen, and tends to make him conscious of his social

¹ Page 169.

inheritance, privileges, and responsibilities. Hence, it should inspire loyalty to the state and its institutions, and devotion to civic and political duties. It trains the individual to form a better estimate of the motives and actions of his associates, enables him to foreshadow his own probable attitudes and conduct under given conditions, and teaches him to shape his course of procedure in such a manner as to avoid unnecessary friction and strife. Moreover, it tends to give a broad, tolerant view of national traits and character, and hence to make international intercourse simpler, easier, and more permanent. In short, the study of history makes individuals sensible of their social and political obligations, and qualified and willing to work in harmony with their fellowmen.

Religiously the study of history tends to give support to the faith that there is "a divinity that shapes our ends, rough-hew them how we will." It reveals the fact that a ceaseless evolution is going on in the realm of intellectual and spiritual things as well as among material organisms, and that ideas alone are constant while forms and processes change. Æsthetically, the historical study of the forms and principles of art tends to develop the power of appreciation and the habit of response among pupils.

As a subject valuable for the sake of pure culture, no branch of study takes higher rank than history. The student who has developed an interest in historical literature has inexhaustible resources on which he may draw for employment during leisure hours and for personal gratification in study and research; while he who has developed the art of writing historical accounts has a limitless field in which to work.

In brief, history is, *par excellence*, one of the most broadly social subjects in the program of studies. It deals with human motives and affairs, with human interests and conduct; and it ennobles human character, thought, and intercourse.

Biological Sciences

Under this heading are usually found botany, zoölogy, physiology, and hygiene. Not infrequently an elementary course styled "biology" is offered as introductory to more specialized work in either botany or zoölogy or both. Three years are usually allotted to work in these fields, but in the smaller schools the work is often extended over only one half that period.

The aims set by the high school in respect to courses in biological science are: (1) to acquaint the pupils with forms of plant and animal life—their history, structure, habits, and functions, and their relations (economic and otherwise) to man; (2) to present the facts of human anatomy and physiology, and to give a knowledge of the laws of health; (3) to stimulate pupils to be appreciative of biological truth, responsive to scientific discoveries, sensitive to the beauties of color and form in plants and animals, and diligent in the observance of the rules of hygiene in their daily living; (4) to train the pupils to observe carefully and to think clearly; and (5) to give skill in the performance of elementary scientific experiments.

Hence, the most notable values claimed for these subjects are the practical, intellectual, auxiliary, æsthetic, and cultural. The practical value is found in the increased power to guard against disease, to check the ravages of insects and other enemies of plant and animal life, to conserve natural resources, and to adjust oneself to environment. The auxiliary values are realizable to a most significant degree in many applied sciences, particularly agriculture and domestic science, in the other pure sciences, and in literature and history. The intellectual powers particularly trained are those of observation, analysis, discrimination, and judgment. The æsthetic values are realized through "a finer appreciation of the grandeur and beauty of the living universe," while in the employment of biological knowledge to discover truth for truth's sake, and for immediate personal

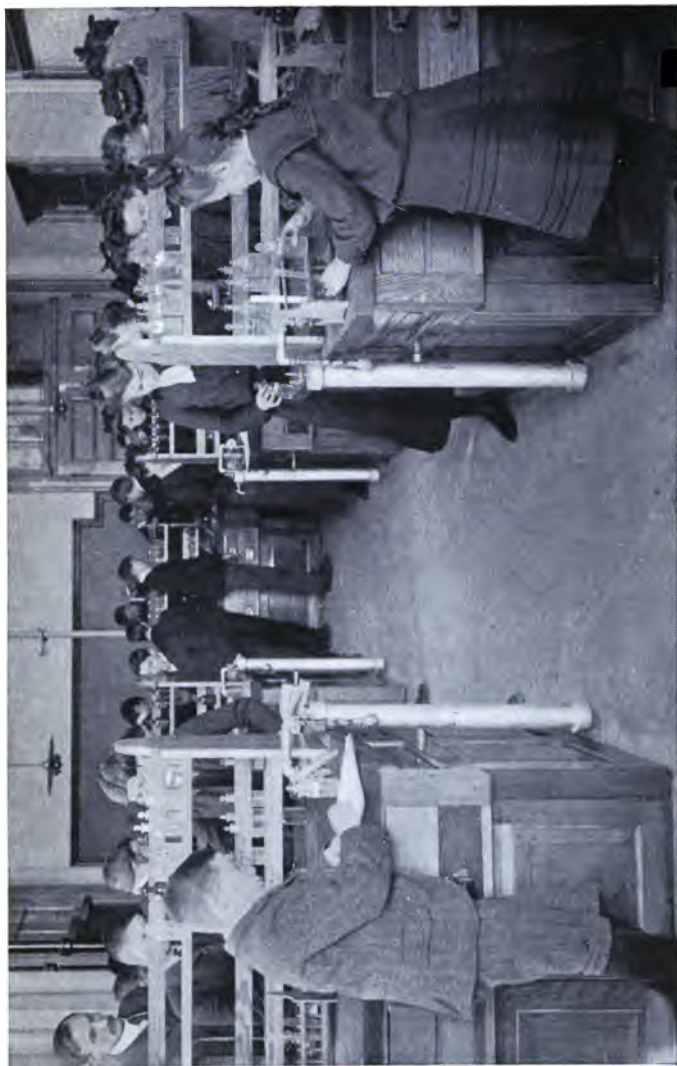
satisfaction, much cultural value is derivable. In so far as the study of biological science impresses upon men the belief in the moral order of the world, the necessity of a personal moral adjustment to this order, and the recognition of a ruling universal force within it all, both religious and ethical values are derived.

Physical Sciences

The physical sciences found in the high school are physics and chemistry, a year's allotment usually being given to each.

The aims of the work in these departments are: (1) To stimulate an interest in the phenomena of the physical world and to give a comprehension of physical laws; (2) to enable pupils to deal effectively with the practical problems of the world of matter and force; (3) to promote careful and systematic observation and to train pupils to draw logical conclusions from observed facts; (4) to give facility in manipulation of apparatus; (5) to develop and foster initiative in the solution of problems, inculcate a high regard for truth, and cultivate accuracy of statement and simplicity of language; and (6) to add to the cultural life of the individual.

Thus, the leading value derivable from work in these fields is the practical value—the knowledge which enables a person more fully to understand and appreciate his surroundings, and to control the forces of nature in the interest of human welfare and comfort. These sciences furnish an intellectual training which, though in some respects not unlike that afforded by other sciences, varies notably from the discipline of the humanistic subjects. Chief among these intellectual values are sustained observation, power to make critical analyses and comparisons, scientific imagination, and reasoning from particular facts to general laws in the world of matter and force. The physical sciences may also claim æsthetic values, moral and religious values, and cultural values, not unlike those of the biological sciences.



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CHEMISTRY CLASS IN MORRIS HIGH SCHOOL, BRONX.

In the second high school year the study of chemistry is pursued for five periods per week.

The Earth Sciences

The branches of the earth sciences commonly found in the high school are physiography (physical geography), geology, and occasionally astronomy. As a rule but one year's offering is provided in these studies, and the aims sought and values ascribed to the work are similar to those of other natural sciences.

Commercial Education

Commercial subjects in the high school have been introduced for the purpose of giving a utilitarian or practical training to those who are unable to defer their vocational study to a later period. At the outset, work in this department consisted of short courses in bookkeeping, penmanship, arithmetic, and business practice. More recently the scope of the offering has been vastly extended, not only by the introduction of stenography and typewriting, but by the incorporation of the quasi-academic branches of commercial law, commercial geography, commercial history, commercial English, commercial mathematics, and commercial foreign language study. Business principles and business organization and management also receive attention. As this work has been extended and deepened, educational values have been claimed for it that have heretofore been peremptorily denied to commercial studies by the advocates of liberal culture. Among these values are: (1) moral powers, such as the development of a love of work, perseverance, accuracy, honesty; (2) mental discipline, including the powers of attention, coördination of hand and eye or hand and ear, perception, judgment, quickness, persistence of memory, expression in correct forms, and similar powers; and (3) social values, inasmuch as an acquaintance with business forms, customs, and processes materially aids the individual in adjusting himself to his fellows. The practical or utilitarian value of commercial work is, however, its most important value.

In view, therefore, of the fact that commercial work offers training of no mean worth, the claim has been advanced that some of it may well be included in the curriculum of any high school pupil who wishes to elect it.

Manual Training

The full four-years' course in manual training, as found in most high schools in which it is offered, consists usually of the following divisions: benchwork; woodturning; elementary and advanced forging; pattern making; foundry work; cabinet making; and machine shop practice.

Regarded at the outset as a purely utilitarian subject, manual training has at the present day, through an extension of scope, a perfection of organization, and an improvement of method, come near to justifying its claim to educational values not inferior to those of any other subject in the program. Probably the value that stands out most prominently in this study is the social value. This is an industrial age, with complex industrial—and hence complex social—relations. The applications of science have produced labor-saving machinery in great variety, made available the natural resources of the world, developed easy means of communication and transportation, and led to the establishment of world-wide markets and the transformation of former luxuries into present necessities. To direct the forces and agencies of the new age wisely, an extension and intensification of social intercourse are demanded. Hence, any subject that gives a clearer insight into the resources, tools, and processes by which contemporary society maintains itself, and discloses to the citizen the essential relations in which he stands to his fellows in the active affairs of the world—such a subject clearly possesses significant social value.

Moreover, manual training undoubtedly has other social values of recognized worth. It provides a laboratory experience which, while different from that gained in a study

of the sciences, is no whit inferior to it. It develops a respect for manual labor and a feeling of kinship for the manual laborer; it familiarizes the pupil with the materials of construction, and with the nature and care of tools and machines; it develops habits of work in the pupil himself, and reveals to him the money value of a day's effort; and it discloses the necessity of coöperation in all forms of social intercourse. Furthermore, the organization and administration of manual training work at its best take on the character of the real social activities found outside the schoolroom, and thus develop a social spirit and habituate pupils to social forms and reactions.

But, in addition to their social values, manual training courses develop stalwart moral qualities, such as energy, accuracy, thoroughness, self-reliance, self-confidence, precision, and habits of neatness and order. They also provide an intellectual training that is unrivaled, not the least significant aspect of which is the power to see the end of the problem and effort from the very beginning. They likewise train in concentration, judgment, and logical procedure in working with material things.

The æsthetic values of manual training are also deep, varied, and forcible, inasmuch as crude material is constantly being transformed into articles of beauty and utility. The practical values of the subject are, certainly for many pupils, of very great worth; while the auxiliary, conventional, and cultural values are all realizable to a notable degree.

Thus, to the social worker and to the educator who takes note of the remarkable changes in the industrial forms and processes of to-day, manual training as a subject of study in the schools appeals with exceptional force. It is capable of yielding values indispensable to this age, and unattainable through the agency of any other school subject. Hence, it seems to justify its claim to some recognition in the curriculum of every high school boy.

The aims of the courses in manual training may, there-

fore, by way of summary, be stated as follows: (1) to develop social ideals and give training in mechanical processes; (2) to train in ethical judgments and moral life; (3) to discipline the mind, particularly with reference to the powers of perception, imagination, judgment, and attention; (4) to furnish a preliminary practical training for industrial vocations; and (5) to give æsthetic appreciation and culture.

Domestic Science and Arts

Courses in domestic science and practical arts for girls serve approximately the same general ends for the girls that manual training courses serve for the boys. That is to say, the chief values of such work are the social and practical values, since these subjects tend to adjust young women more readily and completely to the social environment in which they are to take their places, and to fit them to develop their innate feminine powers. All the social and practical values enumerated in the discussion of manual training are therefore to be found here, together with the intellectual, æsthetic, and cultural values.

To cultivate habits of accuracy, orderliness, system, economy of time, energy, and material; to inculcate certain scientific principles, the mastery of which will increase a girl's efficiency as a home-maker; to make thoughtful workers; to create a high ideal of home life and a realization of the dignity of work; to show the relation which the home and its industries bear to general knowledge and to social and economic conditions; to give ready skill in some of the practical arts appropriate for girls; to strengthen the moral qualities of honesty, truthfulness, purposefulness, and the like; to develop not only the taste but the wisdom "to choose the best instead of the useless, the lasting instead of the cheap, the beautiful instead of the ugly"; and to give beauty, gentleness, and refinement to all the womanly occupations—these are the aims most commonly set up for the work in this department of study.

The scope of the work offered in the high school varies considerably with different communities and with different schools. A complete course of four years includes most (if not all) of the following: general cookery; laundering; plain sewing; fine needlework; dressmaking; millinery; food economics; food values; food production; household bacteriology and household chemistry; home nursing, invalid cooking, and infant diet; economics of clothing; home sanitation; home furnishing and household management; social relations and conduct; and recreation and enjoyment. Hence, to the friends of this newer study, the values of the subject loom so large, are so vitally significant to the welfare of every girl and, hence, to succeeding generations, that to include them in the curriculum of every girl in the high school seems indisputably essential.

Agriculture

Agriculture in the high school program of studies is of very recent date, and is found in complete form in comparatively few schools. Where offered, the course includes some or all of the following: agricultural botany; soils and plants; farm crops; farm animals; agricultural chemistry; fertilizers and drainage; farm management; farm architecture; farm economy; farm bookkeeping; farm machinery; farm beautifying; farm gardening; rural sociology; recreation and enjoyment.

For high school students in a rural or semi-rural community the educational values inherent in a good course in scientific agriculture are both numerous and strong. Not only does this study yield most of the specific mental disciplines that are yielded by other sciences, but also many of the values that are afforded by the humanistic or literary branches. Thus, the powers of observation, clear perception, comparison, analysis, judgment, and reason are all stimulated and developed. Likewise moral qualities, such as habits of work, self-direction, and independence, are

aroused and intensified; and æsthetic and cultural values also are realized in large measure. In the nature of the case, however, the practical values are those most clearly revealed, although the social and political values are only somewhat less distinct. For those pupils who are destined to become agriculturists, the scientific study of agriculture should result in greater productiveness on the farms, and thus in greater material returns and comforts. These in turn must conduce to greater contentment in rural life, and hence yield political and social values of no mean worth. Thus, for the rural high school, agriculture (supplemented by work in household arts and science suitable for the daughters of farmers) possesses educational values that require adequate recognition in the program of studies.

For young people residing in cities and towns, and not intending to engage in agriculture as a vocation, no subject in the entire range of the curriculum promises richer educational results than the generalized study of agriculture. If it served no other purpose than to reveal to the urban resident the interdependence of city and country, to lead him to a truer appreciation of sturdy rural character, customs, and life, and to bring him into more cordial and sympathetic relations with the residents in rural districts, still the study would possess political and social values which no student could afford to neglect.

The aims of courses in agriculture in the high school are therefore: (1) to develop an appreciation of the advantages and beauties of rural life; (2) to train pupils to make rural life yield larger economic, social, and cultural returns; and (3) to discipline the mind in ways especially realizable from the study of applied science.

Drawing

Drawing, both free-hand and mechanical, is receiving increasing attention in high school programs of study. The aims most frequently stated for free-hand courses are: (1)

to discipline the powers of observation, perception, imagination, attention, and expression; (2) to reveal the laws of harmony, beauty, and design, and to stimulate an interest in æsthetics; (3) to provide a source of cultural enjoyment; and (4) to develop the practical power of distinguishing between manufactured articles,—good and bad, attractive and unattractive. In addition to the above aims mechanical drawing seeks (1) to prepare students for vocational positions in the various forms of industrial affairs, and (2) to give students interpretative knowledge and skill in making necessary construction drawings for the work in the mechanic arts.

Thus, drawing possesses indispensable auxiliary value for many lines of study, notable practical value, and intellectual value of strength and variety. The moral, æsthetic, and cultural values are, likewise, of much significance.

Music

In few high schools has music as yet been assigned a very significant position. General chorus work given once or twice a week throughout two or more years and pursued by the pupils with little or no credit counting toward graduation is, however, a feature of most schools. The tendency, nevertheless, seems to be to accord a more important rank to the subject. Courses in harmony, counterpoint, and the history of music are here and there to be found. So, too, are "appreciation courses." Glee, orchestra, and band music are likewise quite commonly taught, but, like the chorus work, are incidental, and are not infrequently pursued outside the limits of the regular school day.

Although the general courses in music are incorporated into the program of studies chiefly because of their cultural and æsthetic values, nevertheless, educational values of intellectual and social kinds may also be ascribed to them. This is especially the case in respect to the more advanced courses offered. Here concentration, application, emotional

interpretation, and skill and beauty of expression are all realizable disciplines.

Among the immediate aims more commonly set for the courses in this department are: (1) to give pupils the experience of singing good compositions; (2) to develop the ability to read at sight music of ordinary difficulty; (3) to give an appreciative knowledge of some of the musical masterpieces, in the same way that English literature seeks to give a knowledge of the best in literature; (4) to establish another avenue of self-expression; (5) to familiarize the pupil with the general seating plan of the orchestra and to teach pupils to recognize the different instruments and the value of each instrument to the entire orchestra; and (6) to give technical musical skill.

Hence, chiefly because of the large cultural value of music—the power of inspiring and of giving personal satisfaction—the subject is claiming larger recognition in all schools in which this aim is regarded as of primary importance. But accompanying the emphasis on the cultural value of music is a coördinate emphasis on the ethical value. If it be true that “the ethical mission of the school is to establish hope as a habit of mind,” to suffuse life with optimism, cheer, and brightness, then indeed the ethical value of school music is unquestionable.

Fine Arts (Other Than Music)

In few schools as yet are courses in fine arts (other than music) offered for election. Wherever drawing is taught the elements of painting, sculpture, and architecture are, however, at least touched upon. In rare cases sketching, water-coloring, and crayon work are taught. In rare cases, too, leather-work, brass-work, and pottery-making are found. As in music, the values ascribed to courses of these kinds are chiefly social, æsthetic, cultural, and (for the special student) practical.

The aims, therefore, that are advanced for work of this

kind are: (1) to develop the artistic habit of mind; (2) to cultivate appreciation and enjoyment of the beautiful; and (3) to assist in raising the standards of art in the community.

Assembly

Under this title is included the school work that finds place in the gatherings, in whole or in part, of the entire high school body, teachers and pupils alike. Such meetings possess large practical, social, moral, æsthetic, and cultural values. In them ideas are often implanted that bear rich fruit later in life; in them ideals of thought and action, inspiration for effort, and suggestions for social coöperation and responsibility are developed; in them lessons of social conduct and procedure are learned; in them opportunities are presented for developing social powers through actual participation by the students in these assemblies. Much that is learned or inspired in "assembly" remains after a goodly portion of the values of classroom work has seemingly disappeared forever. Hence, assembly work claims a conspicuous place in all high schools.

SUMMARY

To recapitulate: We have seen that for each subject in the program of studies a claim is made to a definite group of intrinsic values; that each subject affords several types of discipline; and that these disciplines are realizable in varying degrees. We have shown, too, that for many subjects the values claimed are similar to those of other subjects. This is particularly true of certain types of intellectual disciplines. Whether, therefore, there is an equivalence of worth among these studies, or whether some subjects yield values identical in quality but varying in degree from those yielded by others, is an undetermined question. It is necessary here, as elsewhere in education, to experiment, interpret, and verify. However, on the face of the data so far collected,

the conclusion seems to follow that, for the most part, each subject yields values that differ in important respects from the values of every other subject. Hence, the thesis of the entire discussion in these chapters seems to be substantiated; namely, that different aims in life require different courses of preparation in the schools, and that these in turn demand variations in the kind, scope, and organization of the several branches included in the program of studies. That is to say, the foregoing analyses are intended to show that the high schools of to-day must be organized and administered on the principle of enlarged scope and greater flexibility. In the succeeding pages comparisons have been made of the high school programs of studies of eleven of the larger cities of the United States, and these comparisons have been employed as a basis for critical and constructive discussion of the programs of studies in New York City.

CHAPTER IV

HIGH SCHOOL SYSTEMS IN TEN CITIES

AN analysis of the high school systems in the cities with which the high school system of New York City was compared reveals the salient facts given in this chapter.

BOSTON

Boston provides fourteen public high schools—nine general and five special. Within the general high schools the scope of the work is approximately the same as that found in the “general course” in New York City, with the exception that in Boston manual training, household arts and science, and commercial work are authorized in all general schools; while in New York City none of these branches is taught in the “general course.” In Boston, too, flexibility of administration is secured in a novel way. Each principal (with the approval of the Board of Superintendents) determines whether any given subject of study shall be offered one, or two, or three, or four, or five, or six periods per week. To a very limited extent the same custom prevails in the Latin schools.

Graduation from the general high schools of Boston is based on the “point” system, seventy-six points being required for a diploma.¹ The following are prescribed:

- (1) Six points in physical training.
- (2) One point in hygiene.
- (3) Three points in choral practice.
- (4) Thirteen points in English.

¹ A point is earned by the satisfactory pursuit of a study for one period per week for one year.

- (5) Seven points in the same foreign language, or else in phonography and typewriting.
- (6) Four points in mathematics, or else in book-keeping.
- (7) Three points in history.
- (8) Three points in science.

Not more than fifteen points for drawing, household science and arts, manual training, and music combined are allowed to count towards a diploma.

The five special schools include the (1) Public Latin School (boys); (2) Girls' Latin School; (3) High School of Commerce (boys); (4) High School of Practical Arts (girls); and (5) Mechanic Arts High School (boys). Within each of these schools the work is organized to meet the special needs of the particular classes of students who attend them.

ST. LOUIS

All the public high schools in St. Louis are general high schools, the work being organized in a series of parallel curricula. The curricula found are: (1) art; (2) general; (3) scientific; (4) classical; (5) college classical; (6) college scientific; (7) commercial; (8) manual training; and (9) teachers' college preparatory. In the majority of these curricula the following subjects are prescribed: English, four years; foreign language, at least two years; history, two years; mathematics, two years; science, two years; music, four years; physical training, four years. The remainder of the work is alternative among certain groups of subjects.

Every subject except music, physical training, and trigonometry is pursued through five class periods per week.

CINCINNATI

"The courses [curricula] in the Cincinnati high schools are divided into two general classes; namely, 'Academic

Courses' and 'Technical Courses.' " Under the former are included the "general," "classical," "domestic science," and "manual training" courses; under the latter "commercial," "industrial for boys," "industrial for girls," "art," and "music" courses.

The academic courses are designed for those students who seek a general education or expect to enter college. The work is therefore generous in scope and liberal in administration. The technical courses are "not designed to teach a special trade, but to teach the students in the first two years the fundamental principles of many trades, to the end that when they are sixteen they may choose a trade intelligently." In the upper grades the work is, however, more specifically technical.

CHICAGO

In the Chicago high schools two distinct lines of work are offered, one consisting of eleven "courses," four years in length, designated by the following titles: English, General, Foreign Language, Science, Teachers' College Preparatory, Business, Manual Training, Builders', Household Arts, Arts, and Architecture; the other, consisting of ten "courses," two years in length, of a vocational character, entitled as follows: Accounting, Stenography, Mechanical Drawing, Design, Advanced Carpentry, Pattern-making, Machine Shop, Electricity, Household Arts, Printing.

Among the offerings found in the traditional courses in Chicago are geology, astronomy, industrial history, civic and industrial Chicago, and Polish. Moreover, the method of administering the program of studies is such as to make available to pupils pursuing so-called academic courses much commercial and industrial work. In each specified curriculum approximately 85 or 90 per cent. of the work is uniform; the remainder is selected by each pupil from a rather wide range of subjects, the range progressively increasing in extent as the pupil advances from grade to grade.

CLEVELAND

Public secondary education in Cleveland is provided in six "Academic High Schools," one "High School of Commerce" and one "Technical High School." Within the academic high schools the work is organized into two parallel courses—the Scientific and the Classical—and within each of these courses alternative choices of subjects are permitted in each and every year. The following table reveals the plan of operation:

Year		Scientific Course Per Cent.	Classical Course Per Cent.
1st	Prescribed.....	54.54	77.27
	Alternative.....	45.46	22.73
	Elective.....	00.00	00.00
2nd	Prescribed.....	54.54	77.27
	Alternative.....	45.46	22.73
	Elective.....	00.00	00.00
3rd	Prescribed.....	45.45	40.90
	Alternative.....	45.55	50.10
	Elective.....	9.00	9.00
4th	Prescribed.....	9.00	31.81
	Alternative.....	82.00	59.19
	Elective.....	9.00	9.00

In the technical and commercial work distinct and separate curricula are organized for boys and girls.

DETROIT

Detroit makes the same offering of subjects in each of the five general high schools. For the convenience of students in electing their work a series of suggested curricula is provided. These curricula include the classical, language, manual training, engineering, and commercial. Within each curriculum certain fundamental subjects are prescribed for all, and additional work is then left open to free election by each pupil. In each of these schools manual training, do-

mestic science and art, mechanical drawing, and commercial branches are offered, each pupil being permitted to select some work of this kind in every curriculum.

Recently Detroit has established a technical school in which it is contemplated that much of the distinctively vocational work now offered in the general schools will be concentrated.

INDIANAPOLIS

Indianapolis provides two high schools—the Shortridge High and the Manual Training High. Both schools are, however, general and not special high schools. While industrial work for both boys and girls is found only in the Manual Training School, in all other respects the two schools are essentially alike in character and provide the usual range of academic and commercial subjects. The only work prescribed for all students is: three years of English (three and one-half years in the Manual Training School), two and one-half years of mathematics (one year in the Manual Training School), one year of science, one year of history, one year of music (in Shortridge School), and one year of physical training. All other offerings are open to free election. With the consent of the principal variations may be made even in the prescribed work. The following table indicates the usual practice:

	First Year	Second Year	Third Year	Fourth Year
Prescribed.....	58.33	50.00	37.50	0.00
Alternative.....	0.00	0.00	31.50	25.00
Elective.....	41.67	50.00	31.00	75.00

NEWARK

Newark provides two high schools—the Barringer and the East Side Commercial and Manual Training School. The Barringer offers four curricula; namely, college preparatory, general, manual training and technical, and commercial. The East Side School is chiefly technical in char-

acter, although it, too, provides a general course. Each school, therefore, makes available to its pupils a wide range of academic, semi-technical, and technical subjects.

MILWAUKEE

Milwaukee high schools—four in number—are all general culture schools which provide for individual differences and aptitudes by means of six parallel courses. These are (1) elective course, (2) classical (college preparatory), (3) science, (4) history, (5) manual training, and (6) commercial.

In the Milwaukee system much stress is laid on the intensive study of one or more subjects by each pupil. The curricula are so organized that ordinarily each student upon graduation will have completed four years' work in a selected major subject (English, a foreign language, science, history, manual training, or commercial work) and at least two years' work in each of two minor subjects. However, these curricula are not narrowly specialized, approximately one fourth of each student's course each semester being left open to free election. Moreover, pupils are permitted to ignore entirely the suggested curricula, and under the supervision and advice of the principal may elect their entire four years' course from any fields of study, and in any order of procedure, which their previous education fits them to elect with advantage. Students pursuing a perfectly free elective course are, however, required to secure thirty-two credits or half units in order to obtain a diploma of graduation, instead of thirty credits required of students who follow one of the regularly outlined curricula.

LOS ANGELES

Los Angeles has provided six high schools. All of these offer what may be styled a "general" or "literary" course, though each school lays particular emphasis upon certain

differentiated aspects of education. Thus the Los Angeles High School is distinctly a college preparatory school. Hollywood School aims chiefly at giving a general, well-balanced education. The Manual Arts School and the Polytechnic School stress industrial, commercial, and art education, while San Pedro and Gardena provide literary and scientific courses parallel with semi-vocational or practical courses.

In the scope of the work offered, Los Angeles doubtless surpasses every other city in America. Among the branches found in the Los Angeles high schools, but rarely found in other cities, are the following: debating, dramatics, technical German, commercial and industrial history, United States industrial history, history of music, history of chemistry, history of art and architecture, surveying, analytical geometry, entomology, domestic chemistry, geology, mineralogy, assaying, economic geography, horticulture, home architecture and sanitation, home nursing, dietetics, household management, laundry and sanitation, advertising and illustrating, musical harmony, musical composition, military drill, athletics, and health.

It is not implied that all of the above-mentioned subjects are offered in any one school, but all are distributed throughout the six schools and are found in what may be styled non-technical or non-vocational curricula. Moreover, Los Angeles administers its educational system in a most flexible manner. At the very outset every student has a choice among six different types of schools. Within each school the work is further differentiated and organized into parallel courses. The number of these courses is large, aggregating, in the six high schools, sixty-six. Several of these, it is true, bear the same titles in several of the schools, but their content in no instance is precisely like that of another. Flexibility is further secured by permitting within each of the sixty-six courses and in each of the four years' work outlined therein a goodly number of alternative choices. Thus each pupil has the opportunity of pursuing,

without serious limitations, the lines of study that seem best adapted to his particular interests and aptitudes.

Nevertheless, the Los Angeles system is not without its positive prescriptions. In practically every course of the sixty-six outlined, two years of English, one year of mathematics, two years of history, one year of science, and four years of physical training are required of all. In the majority of courses, at least two years of mathematics, two years of history, and two years of science find place.

In the following pages an intensive study is made of the high school courses in New York City.

PROGRAM OF STUDIES

1s and 21 Annexes (Branches)

UNIVERSITY OF
CALIFORNIA

CHAPTER V

THE GENERAL COURSE IN NEW YORK CITY¹

IN WHAT SCHOOLS IT IS FOUND

THE general course of four years' length is the most common and fundamental course provided. It is found in seventeen high schools, namely: De Witt Clinton (boys), Wadleigh (girls), and Washington Irving (girls), in the Borough of Manhattan; Morris (boys and girls), in the Borough of The Bronx; the Boys' High School, the Girls' High School, Manual Training (boys and girls), Eastern District (boys and girls), Erasmus Hall (boys and girls), and Bushwick, in the Borough of Brooklyn; Bryant, Newtown, Flushing, Far Rockaway, Jamaica, and Richmond Hill (each for boys and girls), in the Borough of Queens; and Curtis (boys and girls), in the Borough of Richmond.

Table I, opposite page 64, shows the program of studies, or the entire instruction offered by the high schools of New York City. It also indicates the organization of the subject matter within the authorized parallel courses and gives brief explanatory notes pertaining to these courses. The program is administered by twenty separate high schools, and twenty-one "annexes" or branches. The courses are grouped under two main divisions, namely: first, the general course, and, second, special courses. The analyses and discussions will follow in order.

THE GENERAL COURSE ANALYZED BY YEARS

First year. In the first year the work is entirely pre-

¹ The course of study used in these analyses is the one issued in 1908.

scribed¹ for all students and consists of the following subjects: English (5);² a foreign language (Latin, German, or French) (5); algebra (5); biology (5); music (1); drawing (2); physical training (2); and elocution (1). This gives a total of twenty-six periods per week—twenty periods of work requiring preparation outside the class, and six not requiring such preparation.

Second year. In the second year, English (3); the same foreign language (5); plane geometry (4); ancient history (3) or "Modern History to 1760" (3); music (1); drawing (2); and physical training (2) are prescribed for all students. This is a total of twenty periods per week, fifteen of which require preparation outside of class recitations. In addition, each pupil is expected to elect one other subject from the following list: Latin (5);³ German (5);³ French (5);³ Greek (5); Italian (5); Spanish (5); physiography (4); chemistry (5); domestic science (4); elocution (1). Thus 75 per cent. of the work is prescribed and 25 per cent. is elective.

Third year. In the third year, English (3); the same foreign language which was begun in the first year (5); "History of England" (2) or "Modern History since 1760" (2); and physical training (2) are the subjects prescribed for all. This is a total of ten periods of work which requires preparation. The elective subjects are: Latin (5); German (5); French (5); Greek (4); Italian (4); Spanish (4); advanced algebra (2); plane geometry (2); stenography and typewriting (4); bookkeeping (3); economics (3); advanced botany (4); advanced zoölogy (4); physics (5); music (1); drawing (2); elocution (1); and

¹ While pupils do exercise a choice of language from among Latin, German, and French, in the first year, a language is really a prescription within the foreign language department, and is so treated throughout this report.

² The figures in parentheses following the name of a subject indicate the number of class exercises per week.

³ Since Latin or German or French is prescribed for this year, the choice here lies between the two languages not already begun in the first year.

any subject scheduled for the second year and not already elected and passed. It is seen that if the unprepared work in physical training be omitted from consideration, the prescribed subjects for this year aggregate 50% of the work every pupil is normally expected to carry. If the prescription in physical training be included, the percentage is 54.54%.

Fourth year. In the fourth year, English (3); American history and civics (4); and physical training (2) are the prescribed subjects. That is, in this year, the prescribed work (not including physical training) aggregates seven periods, or 35 per cent. of the amount usually pursued by each pupil. The subjects open to individual election are the continued courses of each of the foreign languages previously mentioned (no foreign language may be begun in this year); additional and supplementary courses in English (3), Latin (3), and Greek (3); advanced mathematics (4); advanced stenography and typewriting (3); commercial law and commercial geography (3); medieval and modern history (3); music (1); drawing (2); elocution (1); and any subjects scheduled for the second and third years which have not already been elected and passed.

Tables II and III reveal the distribution of work by years and by departments.

TABLE II

PER CENT. OF PRESCRIBED, ALTERNATIVE, AND ELECTIVE WORK¹

First year.....	{ Prescribed.....	100 Per cent
	{ Alternative.....	.....
	{ Elective.....	.....
Second year.....	{ Prescribed.....	75 Per cent
	{ Alternative.....	.....
	{ Elective.....	25 Per cent
Third year.....	{ Prescribed.....	50 Per cent
	{ Alternative.....	.....
	{ Elective.....	50 Per cent
Fourth year.....	{ Prescribed.....	35 Per cent
	{ Alternative.....	.....
	{ Elective.....	65 Per cent

¹Subjects requiring no preparation outside the class exercises are not included in this computation; such subjects are elocution, physical training, drawing, and music. Twenty periods per week are taken as a base throughout the four years.

TABLE III
DEPARTMENT OFFERINGS AND PRESCRIPTIONS (TOTAL)¹

	No. of Periods Offered	No. of Periods Pre- scribed for Graduation	Per Cent. of Work Prescribed
English.....	17	14	82.35
Foreign language.....	102	15	14.70
History, civics and economics.....	15	9	60.00
Mathematics.....	17	9	52.94
Natural science.....	27	10	37.03
Music.....	4	2	50.00
Drawing.....	8	4	50.00
Elocution.....	4	1	25.00
Physical training.....	8	8	100.00

ANALYZED BY DEPARTMENTS

Under this heading, the offering in each department of the general course of study will be considered from the standpoint of (1) scope or range of subject-matter; (2) intensiveness or thoroughness of attack; and (3) flexibility or adaptation to the varying needs of different districts, classes, and individuals.

English

The offering in English (excluding elocution) comprises four years' work of the usual character, and an additional or supplementary elective course in the fourth year. This last course is designed primarily to meet the needs of pupils planning to enter colleges whose entrance requirements in English are not fully satisfied by the work of the regular

¹ A prescribed subject is one required of all students; an alternative subject is one which has to be taken from a group of two or three different subjects; and an elective subject is one which is taken from a group of subjects without restrictions.

four years' course. With the exception of the work of the first year, three periods per week are assigned to each of these courses. Elocution is assigned one period per week throughout the entire four years, but is prescribed in the first year only. The total offering in English, therefore, equals twenty-one periods. If elocution be omitted from consideration (inasmuch as, in many cities, it is regarded as a subject requiring only a minimum of preparation, if any, outside the class exercise), the total offering equals seventeen periods. Of these seventeen periods, fourteen are prescribed for all candidates for graduation. If elocution be included, the total amount of prescribed work aggregates fifteen periods. Thus, it is seen, 71.4 per cent. of the total offering in English and elocution is prescribed and 28.6 per cent. is elective. If elocution be excluded,¹ the prescribed work in English constitutes 82.35 per cent. of the total offering, and the elective work, 17.65 per cent.

While in scope, intensiveness, and flexibility the offering does not differ markedly from the practice in many other cities, the time allotment is, on the whole, less generous than seems desirable, and the distribution of the periods assigned for the subject not wholly satisfactory.² The work seems congested in the first and fourth years, where 60 per cent. more periods of instruction are provided than in the second and third years. Some flexibility is secured to pupils by permitting four periods of elective work in the fourth year and one period of elective work in the second and third years. Flexibility is unduly restricted, however, by the limitations in scope.³

¹ Except in the first year, elocution is an elective subject, and, in further analyses, will be treated separately from English.

² A recent provision of the Board of Superintendents (February 1, 1912) permits the course in fourth-year English to be given four periods per week. Since, however, the compilations for this portion of the report were completed before that date, that provision is not included in our analyses and table.

³ For further criticisms and constructive suggestions respecting the work in English, as well as respecting the provisions for all other work in the program of studies, see Chapter X.

Foreign Languages

Of the foreign languages, Latin, German, and French are offered for four years each, and Greek, Italian, and Spanish for three years each. An additional course in Latin and another in Greek are provided in the fourth year. Latin, German, and French are assigned five periods per week during the first three years and four periods in the fourth year. Greek, Spanish, and Italian may be begun not earlier than the second year, and are assigned five periods per week during that year, and four periods per week thereafter. The supplementary courses in Greek and Latin in the fourth year are assigned three periods each, and are designed primarily to equip students more thoroughly for college. Thus the regular offering in Latin, French, and German is nineteen periods each, and in Greek, Italian, and Spanish thirteen periods each. Pupils desiring to secure more intensive instruction in Greek and Latin than the regular courses provide may obtain three additional periods of work in each.

Summarizing, it will be seen that New York City makes a minimum offering of ninety-six periods per week, and a maximum offering of 102 periods, of instruction in foreign languages.

Of the six foreign languages, no particular one is absolutely prescribed. However, candidates for graduation must have credit for three years' work in some one foreign language, and, except for reasons of health, no pupil is expected to omit foreign language from his curriculum during the first three years in the high school. He may, however, choose among Latin, French, and German. Thus, of the total amount of foreign language work offered, 44.1 per cent. is in the alternative group, and 55.9 per cent. in the elective. Since, in reality, three years' work in the alternative group is prescribed, the per cents. really are: prescribed work, 14.70 per cent., and elective, 85.30 per cent.

History, Civics, and Economics

In this group of studies are found ancient, medieval and modern, English, and United States history,¹ and civics and economics. Ancient history, medieval and modern history, and economics are each offered three periods per week. English history is assigned but two periods per week, and American history and civics combined, four periods. This gives a total offering in this department of fifteen periods, of which nine are prescribed for graduation. These are: three in ancient history in the second year; two in English history in the third year; and four in United States history and civics in the fourth year. Thus, in this department, 60 per cent. of the work is prescribed and 40 per cent. is elective.

Mathematics

The offerings in mathematics consist of a total of seventeen periods of work distributed over the entire four years. In the first year elementary algebra for five periods, and in the second year plane geometry for four periods, are prescribed for all. In the third year two elective courses in mathematics are provided, each being assigned but two periods per week. These courses are (1) elementary algebra, review and advanced, and (2) plane geometry, review and advanced. In the fourth year the course in "advanced mathematics" consists of solid geometry and trigonometry, to which are assigned four periods per week.

¹ The order and organization of the courses in history have been recently modified by the approval by the Board of Education of a syllabus adopted by the Board of Superintendents (December, 1910). This new syllabus is gradually supplanting the old, but, since it is not (January, 1912) in complete operation in any school, the discussions respecting history in this report are based on the older syllabi. The new syllabus prescribes "Modern History, Part I (down to the year 1760)" in the second year; "Modern History, Part II (European history since 1760)" in the third year; and United States history and civics in the fourth year. In the fourth year, also, an elective course in ancient history is offered.

Thus, of the total offering, 52.94 per cent. is prescribed and 37.03 per cent. is elective.

*Natural Science*¹

The offerings in natural science include the following subjects: biology, chemistry, physics, physiography, advanced botany, and advanced zoölogy. Biology, with five periods per week, is a prescribed subject for all pupils in the first year. In the second year chemistry, with five periods per week, and physiography, with four periods, constitute the offerings. In the third year physics, with five periods per week, advanced botany, with four periods, and advanced zoölogy, with four periods, are offered. No additional courses in natural science are found in the fourth year, but pupils of this year are permitted to elect any course listed for the third and fourth years, provided it has not already been completed. The total offerings, therefore, in natural science equal twenty-seven periods per week. Of these biology constitutes the only nominal prescription. Inasmuch, however, as New York City has accepted, as the standard for graduation, the requirements of the State Department of Education, and these requirements include a year's work in science besides biology, an additional year's course in this department is in reality prescribed for all. Thus, the nominal amount of instruction prescribed in natural science is 18.51 per cent. of the total offering; the actual amount is approximately double that per cent.—the exact figures depending on whether a pupil elects a science which is assigned four or five periods per week.

Industrial Work

The general course in New York City is particularly weak in industrial work. No courses of this kind whatever

¹ The expression "natural science" is here employed to designate both physical and biological sciences. The expression, therefore, includes physics, chemistry, physiology, physiography, biology, botany, zoölogy, geology, and astronomy.

are provided for boys, and the offering for girls is limited to a single elective course in cooking, which is assigned only three or four periods per week in the second or fourth years.

Commercial Work

An elementary course in stenography and typewriting is offered in the third year, and an advanced course in these subjects is provided in the fourth year. In the third year, too, a course in bookkeeping is found, and in the fourth year a composite course in commercial geography and commercial law. The elementary course in stenography and typewriting is assigned four periods per week. All the other courses are assigned three periods. The total offering, therefore, in this department aggregates thirteen periods. All the work is elective.

Music, Drawing, and Physical Training

Music, drawing, and physical training are offered throughout the four years. Music is assigned one period per week, drawing and physical training are each assigned two periods. The entire four years' offering in physical training and the first two years' work in both drawing and music are prescribed for all. Thus, the total offering in music equals four periods; in drawing eight periods; and in physical training eight periods. Fifty per cent. of the offering in the first two subjects is prescribed for all, and 100 per cent. of the offering in physical training is prescribed.

*General Regulations*¹

"1. A period shall not exceed fifty minutes.

"2. No new class in an elective subject need be formed in the second year for less than twenty-five pupils; in the

¹ These regulations are quoted verbatim from the printed announcements of the Board of Education.

third year for less than twenty pupils; in the fourth year for less than fifteen pupils.

"3. Students following this course shall present for graduation the satisfactory completion of the required work, and shall be given credit for the number of points indicated upon the satisfactory completion of each subject. The requirement for graduation shall be the satisfactory completion of work aggregating 150 points, and the passing of such examinations as shall be set. Examination ratings secured by students who have completed this course of study in the examinations for admission set by approved colleges and universities may be accepted for graduation from high school and entered upon the pupil's record, provided they are ratings obtained in subjects of the last high school year, and after said pupil has satisfactorily completed the high school course of study and the work of the freshman year. Elections may be made from other subjects, so far as possible, in the order indicated. Students who are preparing for college will make elections in accordance with the admission requirements of the college to which admission is sought. Students who are applicants for admission to training schools are required to present, in addition to subjects starred, Music III and IV, Drawing III and IV, and Science III.

"The number of points to be given to a subject is determined as follows: For subjects not requiring preparation, points equal hours per week. For subjects requiring preparation, points equal twice the number of hours per week.

"This rule may be applied to bookkeeping and stenography, as indicated, if necessary.

"4. In any term a student shall be considered as having satisfactorily completed a subject when he has received a final term mark of 60 per cent. For every ten points obtained with a mark of 80 per cent., or over, the student shall be entitled to one additional point.

"5. Students shall be classified according to the number of points obtained, twenty points being regarded as a full

term's work. A deficiency of five points may be allowed, provided that such deficiency is removed before another advance in classification is made. At the close of the summer vacation, and at such other times as it may be feasible, students shall be given an opportunity to remove deficiencies in class work by an examination to be set by the principal.

"6. Not more than six years shall be allowed for completing the work of the course. And any student who has reached the age of sixteen years and who has not attained, at the end of three years, two years' credit shall be dropped from the roll and discharged, unless the failure to secure the credits called for has been caused by prolonged illness or other reasonable cause.

"7. All ratings and records shall be made at least twice a term. The ratings shall be made by combining the teacher's estimate of the pupil's proficiency, based upon frequent memoranda, with the results of such tests as may be given under the direction of the principal during the regular recitation periods, and without previous announcement. The ratings at the end of the term shall summarize the previous ratings and shall represent the pupil's standing for the term. The students' records shall be made in figures, but reports to parents may be expressed in figures or letters. Equivalents: A=85 to 100; B plus=70 to 84; B=60 to 69; C=50 to 59; D=below 50.

"8. When the interests of a pupil demand it, the principal may modify the program of such pupil or permit him to follow a special program."

CHAPTER VI

THE GENERAL COURSE IN NEW YORK CITY COMPARED WITH THE GENERAL COURSES IN TEN REPRESENTATIVE CITIES

IN order to determine to what extent the organization and administration of the general course in New York City coincide with the organization and administration of the general course throughout the country, an analytical study has been made of the general courses of study as printed by the following ten cities: Boston, Chicago, Cincinnati, Cleveland, Detroit, Indianapolis, Los Angeles, Milwaukee, Newark, and St. Louis. In making the comparisons only such features of the respective systems have been selected as are clearly of a corresponding character. Because practices in New York City coincide with practices elsewhere, or differ noticeably from those practices, it does not, of course, necessarily follow that the practices in New York City are either inferior or superior. Whether they are or not will be considered in another section of this report (see pp. 122 ff.).

A detailed analysis of the courses of study found in each of the ten cities would be too extended to include in this report. The working papers of such analyses have been filed with the Committee on School Inquiry. We have presented here only a somewhat detailed summary of the results obtained from those analyses.

IN WHAT FORM THE COURSES ARE FOUND

Each of the high school systems which have been analyzed provides either (1) a general course or (2) a series

of parallel courses, all aiming to give a general training supplemented by considerable intensified instruction in one or more particular fields, or (3) one or more general high schools organized to enable students to secure a wide range of instruction in such departments as the individual tastes, aptitudes, and ambitions of each pupil may require. In providing a general course in seventeen of the twenty high schools, New York City is, therefore, in accord with the common practices elsewhere in the United States.

SCOPE OR RANGE OF SUBJECT-MATTER

The scope or range of the work offered in the general courses of the general high schools of the cities compared varies noticeably. Each provides the conventional academic branches—English, foreign languages, history, civics, economics, mathematics, and natural science.¹ Most of the general courses also contain offerings in music, physical training, drawing, and elocution, oral expression, or public speaking. The most striking differences are found in respect to the newer and so-called more practical subjects, and in respect to intensified courses and also simplified informational or “appreciation courses” within the fields of the older conventional subjects. Thus manual training, cooking, sewing, applied art, various commercial branches, industrial and commercial aspects of history and geography, and differentiated² courses in English, science, and mathematics are found in practically all ten of the cities here considered.

In comparison with the offerings in the ten cities ana-

¹ See note on page 72 for the meaning of this phrase.

² The expression “differentiated courses” is employed to include (1) simplified informational or “appreciation courses” designed to give a very general acquaintance with particular fields of knowledge; (2) specialized and intensified courses, aiming to give a more thorough training than the regular courses in those subjects permit; and (3) courses in which the vocational aspects are most prominent. That is to say, they are courses lying in the same department, but differing from each other in aims, content, and methods of presentation.

lyzed, the scope of the general course in New York City is decidedly narrow. Indeed, in respect to the newer and more practical subjects, the course in New York City is in the stage of organization which is already outgrown by most other cities. Neither does New York City provide differentiated work in the older conventional subjects commensurate with that work in the other cities.

Of the ten city systems analyzed, nine provide two or more years' work in manual training in every general course or general high school. New York City makes no provision whatever for work of this kind in the general course, and confines the special courses of this character to four high schools, namely: Stuyvesant in Manhattan, Manual Training and Bushwick in Brooklyn, and Bryant in Queens.

Seven cities also provide two or more years' work in cooking, sewing, and applied art¹ for girls in all of their general courses or general high schools, while the other three cities offer these subjects in one or more of their general high schools. New York City provides, in the general course, a single year's offering in domestic science. This consists wholly of a course in cooking, and is restricted to those schools in which "facilities" for teaching the subject are provided—except that elementary sewing is taught in four schools and that dressmaking and millinery are offered for girls in the Manual Training High School in Brooklyn. The high schools in which cooking is actually taught—nine in number—are: Wadleigh, Washington Irving, Morris, Girls', Manual Training, Eastern District, Bryant, Newtown, and Far Rockaway.

As to commercial work in the general course in the seventeen high schools, New York City provides nominally two years of stenography and typewriting and one year each of (1) bookkeeping, (2) economics, and (3) commercial law and commercial geography. Actually econom-

¹"Applied art" is quite generally used to mean work in drawing applied to domestic, industrial, and commercial designing and decoration.



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COOKING ROOM IN WADLEIGH HIGH SCHOOL.

In the general high school course in New York City a single elective course in cooking is assigned for three or four periods per week in the second or fourth years.

ics is taught in but two schools, namely: DeWitt Clinton and Erasmus Hall; bookkeeping in but five schools, namely: Newtown, Flushing, Far Rockaway, Richmond Hill, and Curtis; and commercial law and commercial geography in three schools, namely: Far Rockaway, Richmond Hill, and Curtis. In contrast with these provisions, it has been found that eight of the other cities here compared offer commercial work in excess of twenty periods in every general course or general high school, and that six of these eight cities provide more than thirty periods. Cincinnati and Cleveland are the only cities that provide fewer periods than New York City.¹

Italian is not found as an offering in any one of the ten cities under consideration, but, inasmuch as the subject is not actually taught in a single high school in New York City, the difference in scope in this respect is nominal and not real.

There are other variations in scope or range of subject-matter of the general course which are not common to all the cities, but are found in several of them. Some of these variations are significant. Among the subjects provided in some of the cities and not offered in New York City are the following: debating; dramatics; commercial and industrial history; economic geography; astronomy; geology; mineralogy; analytical geometry; calculus; natural history; history of music; musical composition; musical harmony; history of art and architecture; psychology; ethics; home architecture and sanitation; home nursing; household management, laundry, and sanitation; dietetics; metal working; pottery making; and military drill.

The branches offered in New York City and not provided in many of the other cities are: English history as a separate subject, and advanced or supplementary courses in Greek and Latin.

¹ For a full analysis of the commercial work in New York City, see Thompson's *Commercial Education* (School Efficiency Series, World Book Company, 1914).

INTENSIVENESS OF ATTACK (TOTAL TIME ALLOTMENT IN PERIODS PER WEEK)

A comparison of the degrees of intensiveness with which the work in New York City and in the ten other cities is pursued reveals some notable similarities and differences. The discussion by departments follows.

English. Seven of the ten cities under consideration offer more work in English in the aggregate than New York, and three offer less. The most usual number of periods per week accorded to the courses in English is five—six of the ten cities studied making this number the uniform standard throughout each of the four years. One other city assigns five periods per week during the first two years, but assigns a smaller number of periods to the work of the last two years. Boston is unique in that five periods per week are prescribed for the first year in all schools, but thereafter the principal of each school is authorized, with the consent of the Board of Superintendents, to assign four or five periods per week during the second year, and three, four, or five periods per week in the third and fourth years. Only two cities—Newark and Cincinnati—assign four periods per week throughout the entire four years, and no city except Boston, as noted, and Cleveland assigns fewer than four periods per week in any year. In Cleveland three periods per week are assigned to the course in the third year, but, in addition, one period per week is prescribed in “oratory.” The aggregate number of periods of work in English is, therefore, really four. In the fourth year Cleveland assigns two periods only to English.

In comparison with the practice elsewhere, therefore, the work in English in New York City lacks intensiveness.

Foreign languages. Latin and German, in practically every high school system, extend through four years and are assigned five periods per week. In several cities French is pursued with the same intensiveness, though in some schools it extends through only three years. Greek is usu-

ally offered, if offered at all, for three years, and is assigned five periods per week. Spanish is found in six of the cities and is offered usually for two years, with four or five periods per week. Italian is found only in the New York City course of study.

Thus, in the intensiveness of the foreign languages, New York City is seen to differ little, if any, from the other cities; in the aggregate amount of foreign language instruction offered, however, New York City exceeds every other city.

History, civics, and economics. In history, civics, and economics New York City is considerably at variance with the common practice elsewhere. Almost without exception the ten cities whose courses have been analyzed provide four years of work or more in this department, and, with rare exceptions, the time allotment is five periods per week to each course. In no instance are only two periods per week devoted to any course as in New York City, and in only two cities are courses found with a time allotment of three periods per week. In these two cities, moreover, the assignment of three periods per week is confined to one or two courses, the other courses being assigned four or five periods.

In comparison with the practice elsewhere, therefore, the omission in New York City of all work in history in the first year, and the assignment of only two or three periods per week to each course, except American history and civics, make the work superficial. Eight of the ten cities exceed the aggregate offering in New York City, one equals it, and only one is exceeded by it.

Mathematics. In respect to the intensiveness of the offering in mathematics, seven cities provide more periods of work in this department than New York City, and two provide fewer periods. In nearly every system, however, five periods per week are devoted to each course during the first three years, and from three to five periods in the last year. No city assigns fewer than three periods per week

to any course, except that Cleveland assigns two periods to a single course in "advanced mathematics," offered in the fourth year. In most of the ten cities, too, algebra occupies the attention of the first year; geometry the second; and advanced algebra and geometry the third.

It is to be observed, therefore, that New York City, in providing courses that are assigned only two periods per week, finds little support in other parts of the country. Neither is the elementary course in plane geometry as intensive in New York City as similar courses elsewhere, nor the aggregate offering as large as in a majority of the other cities.

Natural science. In respect to the aggregate offering in natural science, New York City takes middle ground among the other cities, providing fewer periods in the aggregate than five cities, but more periods than the other five cities. In the intensiveness, however, with which nearly every separate course is pursued, New York City ranks below practically every other city, since the common practice in all but one of the ten cities is to devote not fewer than five periods per week to each course. In many cities the allotted time, counting the laboratory periods, is greater than five periods. Several cities also provide courses in astronomy and geology, and a few offer courses in advanced physics and chemistry. Astronomy and geology are usually pursued for a single term each, and are assigned five periods per week. The advanced courses in physics and chemistry usually extend through the entire fourth year and are assigned four or five periods per week.

The only approach New York City makes to providing advanced work of this type are the courses in advanced botany and advanced zoölogy, each of which is assigned four periods per week.

Commercial subjects. In commercial work eight of the ten cities exceed the offering in New York City, and, in most cases, by more than 50 per cent. Almost without exception, all courses in commercial branches offered in the

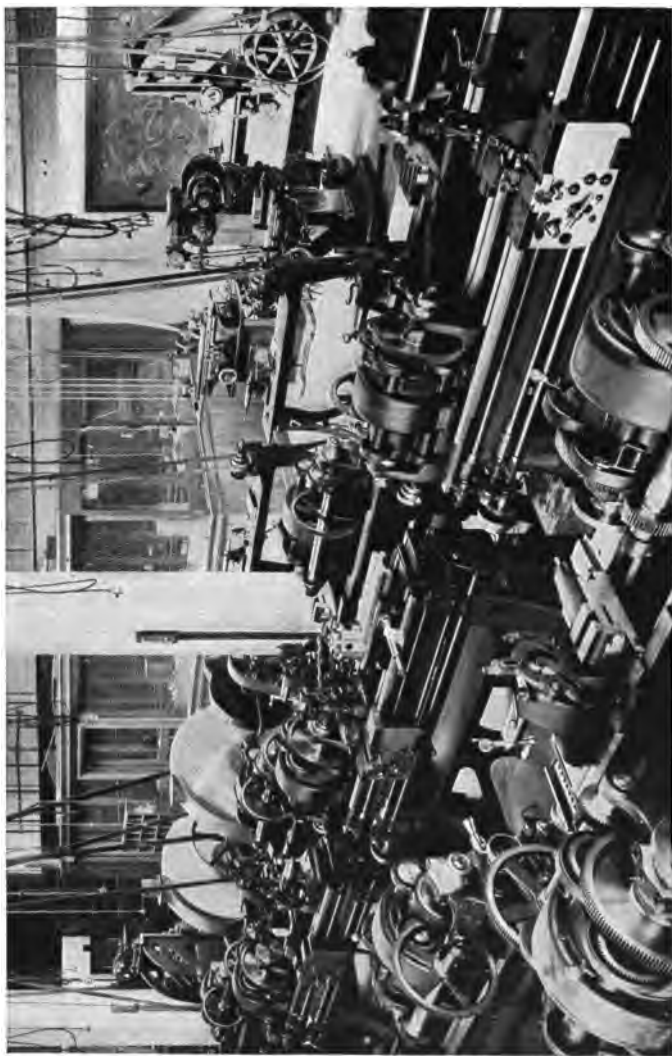


PLATE P. 12

MACHINE SHOP IN MANUAL TRAINING HIGH SCHOOL, BROOKLYN.

general high schools in the ten cities compared are assigned five periods per week. In a few instances the allotment is four periods, but in no case is it fewer than four. Moreover, the aggregate number of periods devoted to commercial subjects in seven of the ten cities is in excess of twenty periods.

In comparison with the intensiveness with which commercial branches are pursued in the general course elsewhere, the New York City offering of a total of thirteen periods distributed among four courses is obviously not commensurate with general practice.

Industrial subjects. (a) For Boys.—Wherever industrial subjects for boys are offered in the general course in the ten cities compared, the work is assigned four or five periods per week, and extends through not less than two years. As has been stated elsewhere (p. 78), New York City makes no provision whatever in the general course for work of this kind, and, hence, furnishes no basis for comparison. (b) For Girls.—Wherever industrial subjects for girls are offered in the general courses in the ten cities compared, the work is assigned four or five periods per week. Practically every course, moreover, extends through an entire year, and the total number of periods assigned to this department is never fewer than eight, and usually exceeds twelve periods. By comparison, therefore, the offering in New York City of four periods in domestic science is indeed small.

Oral expression. Nearly every one of the ten cities compared provides some kind of instruction in oral expression as a subject separate and distinct from the regular courses in English. There is, however, no uniformity of title employed to denote this type of work. "Elocution," "Oral English," "Oral Expression," "Oratory," "Debating," and "Dramatics" are terms used to indicate the courses. As a rule, these courses are assigned one or two periods per week, and are offered for one or two years. In a few cities the work extends over four years.

New York City, in providing one period per week for four years in this subject, is, therefore, assigning approximately as much time to the work as other cities.

Music. Music in New York City is offered once per week throughout four years. This is in keeping with the more usual practices elsewhere, though a few cities—notably Boston, Los Angeles, and Chicago—provide considerably more work than this. The history of music, musical harmony, musical composition, and counterpoint are among the intensified courses found in these cities, each course being offered for an entire year, and (except in Boston) being assigned five periods per week.

Drawing. In practically all ten of the cities compared drawing is provided throughout the four years. The intensiveness with which it is pursued, however, is far from uniform. In a few instances the courses are assigned five periods per week; in several cases the assignment is four periods per week; but by far the most usual practice is to assign two or three periods per week.

New York City, therefore, in providing two periods per week in drawing throughout the four years, differs but little from the practice in a majority of the other cities.

Physical training. Practically all the ten cities compared make some provision for giving systematic physical training, but in only a few instances do the printed announcements indicate the intensiveness of the work. Wherever such announcements are definite, the practices do not materially differ from the practices in New York City.

Table IV (p. 85) shows that New York City offers fewer periods of work in English than do seven cities, but more periods than do three cities; that in foreign languages New York City leads all the other cities; that in the department of history, civics, and economics only two other cities provide as few periods as New York City; that in mathematics seven cities offer a larger number of periods than New York City and two provide fewer periods; that in natural science New York City stands exactly in the



GYMNASIUM WORK IN WADLEIGH HIGH SCHOOL.



face p. 84

HIGH SCHOOL SWIMMING CLASS.

The swimming period is held in one of the city pools.

TABLE IV
INTENSIVENESS OF ATTACK

	No. of Periods in English	No. of Periods in Foreign Languages	No. of Periods in History, Civics and Economics	No. of Periods in Mathe- matics	No. of Periods in Natural Science	No. of Periods in Commere' Work
New York.....	17	102	15	17	27	13
Boston.....	20	90	25	20	40	35
Chicago.....	16	100	27½	17	38	51
Cincinnati.....	16	71	13	18	25	0
Cleveland.....	25	60	19	15	31	10
Detroit.....	36	82½	21	24	28	52
Indianapolis...	20	70	25	20	20	30
Los Angeles....	20	90	80	25	49	45
Milwaukee.....	20	60	22½	20	25	25
Newark.....	16	70	23	15½	23	21
St. Louis.....	20	95	15	18	25	40

middle of the list of cities; and, finally, that in commercial subjects, with two exceptions, New York City provides fewer periods than any other city.

Summarizing, it is seen that, on the whole, the offering in New York City is pursued with less intensiveness than is the offering elsewhere in respect to English; history, civics, and economics; mathematics; natural science; commercial subjects; industrial subjects for both boys and girls; and music: but with equal or greater intensiveness in respect to foreign languages; drawing; oral expression; and physical training.

FLEXIBILITY

In general, the general course in New York City is much more rigidly administered than is the general course in the other ten cities with which it has been compared. This lack of flexibility shows prominently, whether the comparisons be made respecting (a) the amount of prescribed work

of the total amount of work required for graduation, (b) the amount prescribed in the various departments of instruction, or (c) the amount prescribed for each year in the course. The tables found in the following pages make these differences clear.

Table V shows the relative rank of the eleven cities with respect to the per cent. of prescribed work of the total amount of work required for graduation:¹

TABLE V
PRESCRIPTIONS FOR GRADUATION

	Per Cent. ²		Per Cent.
St. Louis.....	75.00	Newark.....	38.16
New York.....	70.10	Indianapolis.....	31.25
Cleveland.....	62.50	Los Angeles.....	18.75
Cincinnati.....	61.11	Chicago.....	10.00
Detroit.....	47.22	Milwaukee.....	0.00
Boston.....	46.87		

It is seen from this table that only one city—St. Louis—ranks above New York City in the rigidity of the administration of the general course of study. The average per cent. of prescriptions in the ten cities, other than New York City, is 39.09 per cent. New York City prescribes 70.1 per cent. of all its offerings. It is evident that the greater the amount of work that is prescribed the less opportunity each pupil has to elect subjects in accordance with his peculiar individual tastes and needs. Hence, in comparison with the other cities, New York City is seen to administer

¹ Prescriptions in music, drawing, physical training, and elocution are excluded from the computations, inasmuch as these subjects usually demand little or no preparation outside the class exercises. Neither are the requirements for graduation from "commercial" courses taken into account, since, in the majority of the cities, such requirements are not fairly comparable with the prescriptions for students in other courses. This explanation applies also to Tables VI, VII, and VIII, following.

² The basis for these percentages is the total number of recitation periods or credits prescribed in work requiring preparation outside of the class exercises as compared with the total number of recitation periods or credits required for graduation.

the general course with less regard to the special interests and aptitudes of the students in the schools than any other city of our list save one.¹

TABLE VI
PRESCRIPTIONS BY DEPARTMENTS
(In percentages)

City	English	Foreign Language	History, Civics, and Economics	Mathematics	Natural Science	Total
St. Louis ¹	25.00	12.50	12.50	12.50	12.50	75.00
New York ²	17.20	18.44	11.07	11.07	12.30	70.10
Cleveland ³	18.75	25.00	6.25	12.50	0.00	62.50
Cincinnati ⁴	22.22	13.89	5.56	12.50	6.94	61.11
Detroit ⁴	20.83	0.00	5.56	13.89	6.94	47.22
Boston ⁵	20.31	10.94	4.69	6.25	4.69	46.87
Newark ⁶	18.42	0.00 ⁶	0.00 ⁷	13.15	6.57	38.16
Indianapolis ¹ . .	18.75	0.00	0.00	6.25	6.25	31.25
Los Angeles ¹ . .	12.50	0.00	6.25	0.00	0.00	18.75
Chicago ¹	10.00	0.00	0.00	0.00	0.00	10.00
Milwaukee ¹	0.00 ⁸	0.00	0.00	0.00	0.00	0.00

¹ Eighty recitation periods taken as the requirement for graduation.

² Eighty-one and one third periods taken as the requirement for graduation.

³ Seventy-two recitation periods taken as the requirement for graduation.

⁴ Sixty-four recitation periods taken as the requirement for graduation.

⁵ Seventy-six recitation periods taken as the requirement for graduation.

⁶ Newark prescribes a foreign language in the college preparatory course and the general course, but not in the manual training course.

⁷ Newark prescribes a year of history in the college preparatory course and the general course, but not in the manual training course.

⁸ Ordinarily candidates for graduation in Milwaukee must have pursued a minimum of work in English, but it is possible to graduate from the elective course without it.

From Table VI it will be seen that, of the 70.1 per cent. of prescribed work required for graduation in New York City, 17.2 per cent. is in English; 18.44 per cent. in foreign languages; 11.07 per cent. in history, civics, and economics; 11.07 per cent. in mathematics, and 12.3 per cent. in natural science. By noting the distributions for the other cities it

¹ If the prescribed work in subjects not requiring preparation outside the class exercises is included in the analysis, the showing of New York City is even less commendable. On a basis of that kind, the percentage of prescribed work is not 70.1 per cent., but 79.33 per cent., being equaled by the percentage in no other city.

will be seen also that New York City prescribes a smaller per cent. of work in English than any other city, except Los Angeles, Chicago, and Milwaukee; that in the foreign languages only one other city, namely, Cleveland, prescribes as large a per cent. of work as New York City, and that only five cities of the eleven prescribe any work whatever in this department; that in history, civics, and economics the per cent. of prescriptions in St. Louis alone exceeds that of New York City, and that four cities make no prescriptions whatever in these fields; that in mathematics New York City stands exactly in the middle of the list of cities, five prescribing a larger per cent. of work and five a smaller per cent.; and, finally, that in natural science the prescriptions in New York City and St. Louis are practically the same, but that both these cities prescribe approximately 100 per cent. more work in this department than any of the other cities. It is to be noted further that three cities make no prescriptions whatever in mathematics, and four cities make no prescriptions in science.

Of course, whether a city shall be considered as ranking high or low on the basis of the facts revealed in the above comparative tabulations depends upon one's conception of the aim of the given school or course, and the educational principles that have been adopted as a guide in the administration of that school or course. Consideration will be given to these topics in a later section of this report.

Table VII differs from Table VI in this respect: Table VI gives the amount of prescribed work in each department compared with the total amount of work prescribed for graduation; Table VII gives the amount of prescribed work in each department compared with the total offering in that particular department only.

From Table VII it is seen that New York City prescribes 82.35 per cent. of the total offering in English; 14.70 per cent. of the total offering in foreign languages; 60 per cent. of the total offering in history, civics, and economics; 52.93 per cent. of the total offering in mathe-

matics; and 37.03 per cent. of the total offering in natural science. A further analysis of the table shows that three cities prescribe a greater per cent. of their offering in English than does New York City; one prescribes a greater per cent. of its offering in foreign languages; one a greater per cent. of its offering in history, civics, and economics; three

TABLE VII

PRESCRIPTIONS IN EACH DEPARTMENT IN RESPECT TO THE TOTAL DEPARTMENTAL OFFERING
(In percentages)

Cities	English	Foreign Language	History, Civics, and Economics	Mathematics	Natural Science
St. Louis.....	100.00	10.25	62.50	55.50	40.00
New York ...	82.35	14.70	60.00	52.93	37.03
Cleveland....	60.00	33.33	26.31	66.66	none
Cincinnati ...	100.00	14.08	30.80	50.00	20.00
Detroit.....	41.66	none	23.81	41.66	17.85
Boston.....	65.00	7.77	12.00	20.00	7.50
Newark.....	87.50	none absolutely ¹	21.74	64.51	21.74
Indianapolis..	75.00	none	none absolutely ¹	25.00	25.00
Los Angeles..	50.00	none	6.25	none	none
Chicago.....	50.00	none	none	none	none
Milwaukee...	none absolutely ¹	none	none	none	none

¹ Ordinarily a pupil is expected to take courses in this subject, but may be graduated without having done so.

a greater per cent. of their offering in mathematics; and one a greater per cent. of its offering in natural science.

Thus, it appears again that the administration of the general course in New York City is much more rigid than it is in practically any of the ten cities. Not only is a relatively larger amount of work prescribed for every department, as is shown in Table VI, but Table VII shows that the opportunity for pupils to select, within the several de-

TABLE VIII
DEPARTMENT PRESCRIPTIONS (IN PERIODS) FOR GRADUATION

City	English	Foreign Languages	History, Civics, and Economics	Mathematics	Science	Total
Boston.....	13	7	3	4	3	30
Chicago.....	8	0	0	0	0	8
Cincinnati.....	16	10	4	9	5	44
Cleveland.....	15	20	5	10	0	50
Detroit.....	15	0	5	10	5	35
Indianapolis.....	15	0	0	5	5	25
Los Angeles.....	10	0	5	0	0	15
Milwaukee ¹	0	0	0	0	0	0
Newark ²	14	0	5	10	5	34
New York.....	14	15	9	9	10	57
St. Louis.....	20	10	9½	10	10	59½

¹ Ordinarily candidates for graduation in Milwaukee must have pursued ten periods of English, but it is possible to graduate from the elective course without such credit.

² Newark prescribes some foreign language for graduation from all courses except the manual training course.

TABLE IX
RANKING OF THE ELEVEN CITIES IN RESPECT TO INFLEXIBILITY³

City	Ranking in Amount of Prescribed Work in					Total Counts
	English	Foreign Languages	History, Civics, and Economics	Mathematics	Science	
St. Louis.....	1	3	1	1	1	7
New York.....	4	2	2	1	2	11
Cleveland.....	3	1	3	1	5	13
Cincinnati.....	2	3	4	2	3	14
Detroit.....	3	5	3	1	3	15
Newark.....	4	5	3	1	3	16
Indianapolis.....	3	5	6	3	3	20
Boston.....	5	4	5	4	4	22
Los Angeles.....	6	5	3	5	5	24
Chicago.....	7	5	6	5	5	28
Milwaukee.....	8	5	6	5	5	29

³ Wherever the same rank is accorded to two or more cities it is to be understood that the prescriptions are identical in amount.

partments, courses according to their own judgment and desires is narrow and restricted.

From Table IX it is seen again that, in the administration of the work in the high schools, New York City ranks high in inflexibility, both in respect to the various departments and also in respect to the aggregate number of counts.

TABLE X
PRESCRIPTIONS FOR GRADUATION BY YEARS

1st Year	2nd Year	3rd Year	4th Year
NEW YORK... 100.00%	Cincinnati... 77.77%	St. Louis... 75.00%	St. Louis... 75.00%
St. Louis... 75.00	NEW YORK... 75.00	Detroit... 55.55	NEW YORK... 35.00
Cleveland... 75.00	St. Louis... 75.00	NEW YORK... 50.00	Cleveland... 35.00
Cincinnati... 72.22	Cleveland... 75.00	Newark... 47.37	Cincinnati... 22.22
Detroit... 55.55	Newark... 47.37	Cleveland... 40.00	Newark... 10.50
Indianapolis... 50.00	Detroit... 27.70	Indianapolis... 25.00	Detroit... 0.00
Newark... 47.37	Boston... 25.00	Cincinnati... 22.22	Boston... 0.00
Boston... 25.00	Los Angeles... 25.00	Boston... 18.75	Indianapolis... 0.00
Los Angeles... 25.00	Indianapolis... 25.00	Los Angeles... 0.00	Los Angeles... 0.00
Chicago... 10.00	Chicago... 10.00	Chicago... 0.00	Chicago... 0.00
Milwaukee... 0.00	Milwaukee... 0.00	Milwaukee... 0.00	Milwaukee... 0.00

From Table X it is seen that New York City allows individual pupils no choice whatever in selecting their courses in the first year. Every offering is prescribed for all.¹ In this respect New York City stands alone, no other city prescribing work in excess of 75 per cent. of the amount assigned for this year, and five cities prescribing less than 50 per cent.

In the second year Cincinnati holds first place in respect to the prescriptions for all students, while New York City, St. Louis, and Cleveland each prescribes 75 per cent. of the work. It should be observed, however, that seven cities prescribe for this year less than 50 per cent. of the work of

¹ As indicated elsewhere (p. 66), a pupil does have the alternative choice of Latin, German, or French. Since, however, these subjects lie within the single department of foreign languages, we have, in all cases, treated this alternative choice as being in reality a prescription in this department.

each pupil, and that five of these cities prescribe not more than 25 per cent.

In the third year New York City ranks third in the list, being surpassed by St. Louis and Detroit. In this year New York City prescribes 50 per cent. of the standard amount of work; two cities prescribe between 40 per cent. and 50 per cent.; three cities prescribe between 18 per cent. and 25 per cent.; and three cities make no absolute prescriptions whatever.

In the fourth year New York City and Cleveland are tied for second place, each prescribing 35 per cent. of each pupil's work, while St. Louis outranks all the cities, with a prescription of 75 per cent. of the work. Cincinnati and Newark prescribe, respectively, 22.22 per cent. and 10.5 per cent., while six cities make no absolute prescriptions whatever for this year.

Thus it is clear again that the rigidity of the administration of the general course in New York City is far greater than in a majority of the other cities we have compared. Or, to state the same fact differently, in making the work of each year flexible, and hence more adaptable to the peculiar needs of individual pupils, New York City ranks below nine tenths of the other ten cities. In the first year New York City stands at the bottom of the list; in the second year next to the bottom; in the third, third from the bottom; and in the fourth, second from the bottom.

We find, therefore, in summarizing, that, in respect to the scope of the work offered in the general course, the intensiveness with which many studies are pursued, and the flexibility with which the work is administered, New York City ranks markedly below the majority of other cities with which it has been compared.

CHAPTER VII

THE ACTUAL ADMINISTRATION OF THE GENERAL COURSE IN NEW YORK CITY¹

The foregoing analyses and comparisons of the general courses in the high schools of the ten cities considered were based on the latest available printed documents issued by the respective boards of education. To what extent the actual practices in the ten cities correspond to and coincide with the printed announcements, material at our disposal does not reveal. Nor was it feasible to attempt to determine the details of administrative practice in those cities. In New York City, however, it was possible to ascertain what divergencies, if any, from the printed outlines are found in actual practice. These divergencies are numerous, and, in some instances, very great. The following discussion seeks to make such variations clear.

IN THE FIRST YEAR

The work of the first year of the general course is fixed and uniform throughout the seventeen high schools in which the course is found. Twenty-six periods of the same prescribed work are provided for all. In each school these are distributed over the eight departments of English, elo-

¹ In making a study of the actual administration of the general course in New York City, data were secured through the following means: (1) several consultations with Superintendent Maxwell and Associate Superintendent Stevens; (2) several consultations with the head-masters and with associate teachers in the various high schools; (3) personal inspection of the high school work covering a period of nearly two weeks; (4) several conferences with members of various teachers' organizations of the high schools; and (5) a detailed questionnaire sent to each head-master in the city.

cution, foreign languages, mathematics, biology, music, drawing, and physical training, in exact conformity with the printed course of study. The work differs in scope, kind, and intensiveness for the various sections of the city, the various abilities of pupils, the various aims and interests of individuals *only in so far* as the methods of individual teachers differ, or the independence and ingenuity of principals in interpreting technical uniform rules are exercised. In rare cases during this year Rule 8 of the "General Regulations" (see p. 75) is allowed to operate, and pupils physically weak or having other reasons acceptable to the principal are permitted to deviate more or less from the uniform prescription. The departures are, however, *within* the restricted fields laid out, and are in the interest of *minimized* work, not *different* work. Substitutions of courses unprovided for in the printed course of study are found in only one school, the Wadleigh High School, and are being offered there only as tentative experiments.

In this year the only possible authorized differentiation of work is the alternative choice of a foreign language, the field being restricted, however, to Latin, German, and French. Moreover, as the program is actually administered in many of the schools, even this limited freedom of election is denied. Elementary school principals, through their advice to the students about to enter high schools, determine to a great extent which language shall be chosen. If, perchance, a few pupils, knowing definitely their wants and the reasons therefor, ignore the advice and elect the foreign language not advised, the principal of the high school selected may take his stand on the rule¹ respecting the minimum size of classes (sections), and require the pupils to elect a different language. In consequence of these practices, continued for some time, traditions have been established within some of the schools, and it has become the accepted unwritten law that first-year pupils entering these schools shall pursue a single definitely predetermined for-

¹ Rule 2. See p. 73.

eign language. Thus, for example, no foreign language other than Latin is taught to first-year pupils in the Erasmus Hall High School. Young people, who may perchance live within a block of that school, must, therefore, take Latin as the first year required foreign language, or secure their schooling in some other school. Again, in the Morris High School, not till the February-June term, 1912, has the number of students electing French in the first year been sufficiently large to make the formation of a section profitable. Nor can it be doubted that, had the principal of this school been so minded, he could, through advice and pressure, have so reduced the number of such elections as to make provision for the class (section) unnecessary or impossible. In one of the annexes of this same school both Latin and French have been entirely eliminated from the course. Hence, pupils entering this particular annex are required to take German.

The question here is not concerning the wisdom or unwisdom of these practices. That aspect will be discussed later. The point is that in some schools the real course of study for the first year does not coincide with the nominal course of study.

IN THE SECOND YEAR

The printed course for this year provides that Greek, Italian, Spanish, domestic science for girls, chemistry, and physiography shall constitute the subjects open to untrammelled election. The actual situation is as follows:

In 1910-1911 Greek was actually taught in nine out of the seventeen high schools offering the general course, but the number of pupils pursuing the subject was few in each school. In consequence, this year (1911-1912), by order of the Board of Superintendents, Greek has been confined to seven schools. In the other ten schools it is, therefore, only a nominal and not a real elective.

Italian is not actually taught in a single school in the city. Its inclusion, therefore, in the course of study is purely nominal for this year as well as for other years.

Spanish is actually taught in but three schools having the general course, namely: the DeWitt Clinton, Newtown, and Bryant. Its appearance as a free elective is, therefore, misleading, since the long distances within New York City and the expense of travel render a subject which is offered in but few schools practically unavailable for all save those residing near the school or on direct car lines.

"Domestic Science I," which in New York City means instruction in cooking only, is announced as offered only in those schools which are provided with a kitchen. In consequence, there are but nine high schools offering such instruction, two being in Manhattan, one in The Bronx, three in Brooklyn, and three in Queens. There are, therefore, six other high schools attended by girls which do not provide an offering of this kind.

When, therefore, the course of study for the second year is viewed in the light of the actual offering, it is seen to be considerably less extensive in scope than one would be led to believe from the printed course. Moreover, inasmuch as English, a continuation of the foreign language begun in the first year, mathematics, history, drawing, music, and physical training are prescribed for all in this year, the only elective subjects open to boys are virtually chemistry, physiography, and a second foreign language (Latin, French, or German). Girls in nine schools have the additional choice of cooking. Since, however, physiography is prescribed for admission to the city training schools, and many of the girls are preparing for those schools, physiography for hundreds is virtually transferred from the elective column to the prescribed column. Thus the six elective subjects indicated in the printed course of study are really reduced to not more than four in any school, and to less than four in most schools.

IN THE THIRD YEAR

In the third year the same limitations hold as in the second year in respect to Greek, Italian, and Spanish. "Music III" and "Drawing III" are electives (save for candidates for the city training schools), but, since each is offered but one period per week, they are not so important in this discussion as other subjects. "Mathematics IV, Plane Geometry, Review and Advanced," is, in several of the schools, withdrawn as an offering this year, and given as an additional period in connection with "Mathematics II" of the second year. Physics is a prescribed study for candidates for the training schools and for admission to many colleges. Moreover, the regents prescribe for graduation one science, and will not accept biology as that science. Hence physics, or chemistry, or physiography, or advanced botany, or advanced zoölogy becomes a required subject for all. Economics is taught in but two schools having the general course, and bookkeeping in but five schools. Hence these subjects are not generally available. Thus the elective offering of the third year of professed thirty-nine periods virtually shrinks by about one third. The only subjects that are generally available for individual choice are a foreign language (5) (Latin, German, or French); physics (5); intermediate algebra (2); stenography and typewriting (4); advanced botany (4); advanced zoölogy (4); and, as before stated, music (1) and drawing (1).

IN THE FOURTH YEAR

As in the preceding years, the lack of availability of work in Greek, Italian, and Spanish continues. "Latin V" (additional and supplementary Latin) is taught in only three schools, and "Greek IV" (additional and supplementary Greek) in only a single school. "English V" (additional and supplementary English) is taught as a distinct course in but two schools. In a few schools the regular prescribed

work in English for the year ("English IV"), which is assigned three periods per week in the course of study, is increased in intensiveness to four or five hours per week by adding to it an extra hour or two taken from the optional course—"English V." The same is true in rare instances respecting "Latin IV" and "Latin V." Neither practice is common, however. Hence, the supplementary courses thus provided on paper play a very small part in the actual work of the schools. "Science VI, Physiography," which is announced in the printed course as being an elective subject in this year, is precisely the same course as that offered in the second year. If taken then, of course, it becomes no longer a possible elective for the senior. The same is true of chemistry, which is offered in the second year; of the advanced courses in botany and zoölogy, which are provided in the third year; and "Domestic Science I," which is the same as the course in domestic science offered in the second year. Commercial law is actually taught in but three schools; "History IV (medieval and modern)" is actually taught in but three schools. Music and drawing, required here only for the candidates for the training schools, and meeting but once per week, need not be given particular attention.

Thus, giving to the course for the fourth year the most liberal interpretation possible, for the majority of students of New York City the availability of the subjects that they believe will best serve their individual needs is limited to the following offerings: (1) a fourth year's study in foreign language; (2) a third or second year's study in one or two other foreign languages; (3) physiography or other science not already passed; (4) advanced mathematics; (5) stenography and typewriting; (6) music and drawing.

If, however, pupils have not already begun a second foreign language or do not desire to pursue the first foreign language beyond the term of three years prescribed, and if such pupils have already elected and passed physiography and chemistry (one of which they will almost of necessity have been obliged to take, unless they have, at the begin-

ning of the second year, elected a second foreign language), the scope of available material for them is meager indeed. In fact, such material is limited for them in most of the schools to advanced mathematics, advanced botany and zoology, commercial branches, and drawing and music. That is to say, the nominal electives open to seniors according to the official course of study aggregate seventy periods per week. The *actual available subjects* open to the senior student *with linguistic tastes* aggregate in most schools thirty-eight periods. This includes all work available, though much of it would undoubtedly not be adapted to the needs of a student of this type. The *actual available subjects* open to the senior student *without linguistic tastes*, and who, in consequence, would naturally elect chemistry in the second year rather than a second foreign language, would aggregate, in most schools, only twenty-two periods, and would include, in general, besides the science work, advanced mathematics, typewriting and stenography, drawing, and music, some of which would certainly not particularly meet his needs.

Thus, it is apparent that in scope or range of subject-matter the general course in New York City as actually administered is in reality decidedly more narrow than the printed announcements indicate, and that, as a consequence, the opportunity for pupils to elect work that is adapted to their special needs and interests is restricted to an amount considerably less than the small maximum which the printed course of study sets forth.

On the other hand, in the actual administration of the course a greater intensiveness in a few subjects is secured than the printed announcement indicates. In a number of schools in the city plane geometry of the second year is given five periods instead of four; English history of the third year is given three periods instead of two; and English of the fourth year is allotted four periods instead of three. In other respects, however, the nominal and the real assignments of periods to the different subjects coincide.

CHAPTER VIII

THE SPECIAL COURSES IN NEW YORK CITY

GIRLS' TECHNICAL COURSE

In What Schools It Is Found

THE Washington Irving and Bryant High Schools offer special technical courses for girls. With the exception of the course for library assistants, which is four years, these special courses are three years in length.

Analyzed by Years

First year. In the first year the work is prescribed for all students as follows: English (5);¹ commercial arithmetic (5); German or French or Spanish or technical work of the second year (5); drawing (2); domestic science and art (5); physical training, including physiology and hygiene (2); music (1), and declamation and voice training (1). This makes a total of twenty-six periods of work, 80.8 per cent. of which is prescribed and 19.2 per cent. alternative between a language and technical work.

Second year. In the second year a portion of the work is prescribed, but, in addition to such work, each pupil is permitted to elect a "group" of studies selected from several "groups," each "group" being organized to meet the vocational needs of a different set of students. The required work for all but those preparing to be library assistants is: English (5); physical training (2); music (1); declamation and voice training (1); and drawing

¹ The figures in parentheses, following the name of the subject, indicate the number of class exercises per week.

(2). In the cases of students who are specializing in commercial work or designing, the modern language chosen in the first year may be continued during the second and third years as an alternative for music, declamation, and drawing.

The groups from which a pupil elects one group are as follows:

Group I (stenographers and typewriters).—Stenography, typewriting, bookkeeping, penmanship, spelling, and office practice—nineteen periods.

Group II (dressmakers and embroiderers).—Sewing, drafting, fitting, study of materials, textiles, color, form, and design—nineteen periods.

Group III (milliners).—Millinery, study of materials, trimming, frame-making, color, form, and design—nineteen periods.

Group IV (designers).—Design, still life, plants, casts, composition, picture study, history of ornament, textiles, interior decoration, draperies, costume design, book covers, illustrating, lettering—nineteen periods.

Group V (library assistants).—The course in which this group constitutes the offering for the second year differs from the other technical courses in that it is four years in length instead of three. It also differs in being somewhat more closely allied to the general course than are the other technical courses. The prescribed work in this course in the second year is as follows: English (5); ancient history (3); geometry (4); German, French, Latin, or Spanish (two to be elected) (10); physical training (2); music (1); declamation and voice training (1)—twenty-six periods. No elective work is authorized for this year.

Third year. In the third and last year of all the technical courses (except the course for library assistants) the prescribed work is as follows: English (5); physical training (2); music (1); elocution (1). (If the language chosen

in the first year is continued until the third year, music and elocution are not required.) The elective groups in this year are as follows:

Group I, as in second year, with commercial law and civics—twenty-one periods.

Group II, as in second year—twenty-one periods.

Group III, as in second year—twenty-one periods.

Group IV, as in second year—twenty-one periods.

Group V, course for library assistants: English (5); a foreign language (4); history of England (3); physical training (2); music (1); library economy (15)—thirty periods.

Fourth year. The course for library assistants continues through a fourth year as follows: English (5); a foreign language (4); American history and civics (4); library economy (12); physical training (2); medieval and modern history, or additional library work (3)—thirty periods.

Analyzed by Departments

English. English is offered five periods per week throughout the three-year and the four-year courses, and is a required subject. In the three-year course elocution is required in the first year, and is alternative in the second and third. In the four-year course it is required in the first and second year and is not offered during the third and fourth years. From this it will be seen (1) that in the three years' course 88.9 per cent. of the work in English is required, and 11.1 per cent. is alternative with other subjects, and (2) that, in the four-year course, 100 per cent. of the work is prescribed. In respect to intensiveness the instruction is adequate.

Compared with the offering in English in the general course, therefore, it is seen that one more period is prescribed during the first three years than is prescribed for the entire four years in the general course. In the course for library assistants 42.85 per cent. more work in English

is offered than in the general course. Moreover, each of the courses in English, except the course of the first year, is pursued with considerably more intensiveness than the corresponding courses in the general course. The work, however, differs not at all in kind and content from the work in English in the general course.

Foreign languages. In the three-year course the work in language is alternative with technical work, no foreign language being absolutely required. French, German, and Spanish are offered during the three years, and, with five periods per week, the work ought to be sufficiently intensive.

In the girls' library course Latin is offered, as well as French, German, and Spanish, and all of the work is alternative. In this course, however, after the first year, two foreign languages are required, the work being assigned five periods per week during the first two years and four periods the last two years. This arrangement for foreign languages seems adequate for the purpose; it is sufficiently extensive in scope, is intensive enough for the purposes for which it is designed, and is flexible enough in administration to afford each pupil the opportunity to obtain that work which will best serve her needs.

In the course for library assistants the prescribed work in foreign languages is in excess of the work required in the general course; in all the other technical groups there is greater individual choice permitted.

History, civics, and economics. No work in history, civics, and economics is offered pupils in the three-year course—an unwise omission. In the library assistant's course ancient history, three periods per week, English history, three periods, and United States history and civics, four periods, are required. Medieval and modern history is an alternative subject offered three periods per week. In this course thirteen periods per week of historical instruction are offered, of which 76.9 per cent. is required and 23.1 per cent. is alternative.

Compared with the offering in the general course, therefore, the provisions for the pupils in the three-year course are much less generous. The prescriptions for pupils in the four-year course are precisely the same as those for pupils of the general course.

Mathematics. Commercial arithmetic is prescribed for all students five periods per week in the first year. No other work in mathematics is offered in the three-year course. In the library assistant's course plane geometry is prescribed in the second year, which, with commercial arithmetic, constitutes the entire offering in mathematics in this course. There is no flexibility in either of the courses.

Natural science. No work is offered in natural science in either one of these groups.

Technical subjects. Technical subjects are made available for all pupils after the first year, and for all students (except those preparing to become stenographers, typewriters, or library assistants), a minimum of such work is made optional even in the first year in place of foreign languages. The technical subjects include commercial work, dressmaking, millinery, designing, and library work. In the first year the amount of available technical work aggregates five periods, or 19.2 per cent. of the standard requirements for that year. In the second year nineteen periods of technical work are prescribed for all students (except those in the course for library assistants), and in the third year twenty-one periods of such work are prescribed. The prescriptions for each of these years, however, lie within alternative groups of subjects, and hence, by the arrangement, a pupil is afforded an opportunity to elect a line of work which is best adapted to her peculiar needs.

In the course for library assistants fifteen periods in library economy are prescribed for the third year. In the fourth year three additional periods in technical library work are provided as an alternative for three periods in medieval and modern history.



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MACHINE SHOP IN STUYVESANT HIGH SCHOOL, MANHATTAN.

Music, drawing, and physical education. One period of music is prescribed in the first year of the three-year course, and in the first three years of the four-year course. In the second and third years of the three-year course one period per week is made alternative.

Two periods of drawing are prescribed in the first year of both the three-year course and the four-year course. In the second year of the three-year course two additional periods of drawing are made alternative.

Two periods of physical training are prescribed each year throughout each course.

MANUAL TRAINING COURSE FOR GIRLS

In a circular issued by the Department of Education, giving information relative to courses in the high schools, a "Manual Training Course of Four Years for Girls" is announced. The announcement contains the information that, "in the Manual Training and Bushwick High Schools, Brooklyn," such a course is offered "with electives in sewing, cooking, millinery, etc., in the second, third, and fourth years."¹

A study of this course shows that it is identical with the "General Course of Study" except in the matter of industrial work for girls. Whereas the general course offers a year's work in cooking in either the second or fourth years, the manual training course for girls offers a year of sewing and dressmaking, four periods per week, during the second year; a year of cooking, four periods per week, and a year of millinery, three periods, both in the third year; and further work to the extent of four periods in sewing and dressmaking in the fourth year. All of this work is elective. From this analysis it is clear that this manual training course for girls is in reality the general course into which have been introduced eleven additional periods of domestic arts work.

¹ From a circular issued by the Department of Education, New York City.

MANUAL TRAINING, INDUSTRIAL, AND TECHNICAL COURSES
FOR BOYS*In What Schools They Are Found*

"Manual training, industrial, and technical courses of four years are offered to boys in the following high schools: Stuyvesant, Manhattan; Manual Training, Brooklyn; Bushwick, Brooklyn; Bryant, Queens. The manual training course prepares for admission to colleges, schools of engineering, and professional schools. The industrial or technical course offers opportunities for special work in woods and metals and in machine shop practice, and is intended for boys who will enter high grade manufacturing establishments directly from school."¹

Analyzed by Years

First year. In the first year of this course English (5), elocution (1), algebra (5), freehand and mechanical drawing (4), music (1), physical education (2), and joinery (6) are prescribed. German (5), French (5), and Latin (5) are offered as alternative subjects (one of three languages being required). Physiology and hygiene (as required by law) are prescribed for the equivalent of four lessons a week for ten weeks. The prescribed subjects, therefore, constitute 82.8 per cent. of the total offering, and the alternative subjects 17.2 per cent.

Second year. In the second year English (3), plane geometry (4), the continuation of the same foreign language elected in the first year (5), freehand and mechanical drawing (4), woodturning, pattern-making, molding, and sheet metal work (6), music (1), and physical education (2) are prescribed. Chemistry (5) and a second language (5) are offered as alternatives. The prescribed subjects, therefore, constitute 83.33 per cent. of the offering, and alternative subjects 16.67 per cent.

¹ These regulations are copied verbatim from the printed course of study.

Third year. In the third year English (3), a continuation of the same foreign language elected in the first year (5), physics (5), advanced algebra and trigonometry (3), mechanical drawing (2), physical education (2), and forging (6) are prescribed. The second language (5) (if such has been elected in the second year) may be continued, and chemistry (4) or an additional language (4) may be taken. German, French, or chemistry must be pursued during this year. The prescribed subjects, therefore, constitute 85.71 per cent. of the offering, and the elective subjects 14.29 per cent.

Fourth year. In the fourth year English (3), a foreign language (4), English and American history and civics (4), mechanical drawing (2), physical education (2), and machine shop practice (6) are prescribed. "With the approval of the principal, a pupil preparing for a technical college course may substitute an academic subject for machine shop practice."¹ Two subjects must be chosen from the following: a second language (4), chemistry (4), physics (4), and spherical trigonometry and solid geometry (4). The prescribed subjects, therefore, make up 72.4 per cent. of the offering, and alternative subjects 27.6 per cent.

Analyzed by Departments

English. The course in English consists of fourteen periods of work, and differs neither in scope, intensiveness, nor flexibility from the work prescribed in the general course.

Foreign languages. The offering in foreign languages consists of work in Latin, French, and German, each being accorded a total of nineteen periods. A pupil is required to pursue one of these languages for three years, and after the first year may elect the other two languages. So far as the printed announcements of the work indicate, the character of the offering in this department differs not at

¹ From a note in the announcement of the course.

all from the foreign language study in the general course. In scope, intensiveness, and flexibility of administration the provisions seem to be identical with the provisions for the general course.

History, civics, and economics. The only historical work which is available for pupils in the manual training course for boys is United States history and civics. This course is assigned four periods per week and is prescribed for all students in the fourth year. The offering in history, civics, and economics is, therefore, decidedly smaller in amount than the offerings in the general course.

Mathematics. Four years' work is provided in mathematics, with a total offering of sixteen periods. Of this offering 75 per cent. is prescribed and 25 per cent. is elective. The scope, intensiveness, and flexibility of the work in the first and second years differ not at all from the work of the same years in the general course. In the third year, in place of advanced algebra and advanced plane geometry, as provided in the general course, the work here consists of advanced algebra and plane trigonometry. In the fourth year, in place of the plane trigonometry and solid geometry, which are offered in the general course, spherical trigonometry and solid geometry are found. So far as the printed announcements indicate, there is no decided difference in the content of these courses from what is found in the corresponding courses in the general course.

Natural science. Chemistry, elementary and advanced, is offered to the extent of nine periods per week, as an alternative subject. Elementary physics is prescribed for five periods, and an advanced course in physics, with four periods per week, is provided as an alternative subject. The total offering in natural science, therefore, is eighteen periods, of which 27.8 per cent. is prescribed and 72.2 per cent. is alternative.

The provisions for work in natural science in the manual training, industrial, and technical course differ, therefore, from the offering in the general course in these respects,

namely: (1) a ten weeks' course in physiology and hygiene takes the place of the year's work in biology in the general course; (2) no courses corresponding to the advanced courses in botany and zoölogy or to the course in physiography are provided; and (3) specialized courses in physics and chemistry are provided.

Industrial and technical subjects. Twenty-four periods devoted to the various aspects of shop work are offered during the four years, and the total amount is prescribed for all students.¹ The work includes joinery, woodturning, pattern-making, molding, sheet metal work, forging, and machine shop practice. The scope of the offering is, therefore, large, and the intensiveness with which it is pursued is good. There is, however, little flexibility in administration. Boys with special technical interests find little opportunity to specialize in the aspects of technical work which appeal to them most.

Music, drawing, and physical training. Vocal music is prescribed one period per week throughout the first two years, the prescription being the same in amount as that in the general course.

Drawing during the first two years includes freehand and mechanical drawing, and is assigned four periods per week during both of these years. In the third and fourth years mechanical drawing only is offered, two periods per week being assigned to the subject. The total offering in drawing, therefore, is twelve periods, all of which are prescribed.

The offering in drawing in the general course and in the manual training, industrial, and technical course differs, therefore, in that (1) mechanical drawing for the equivalent of eight periods is offered in the latter course, but not in the former, and (2) that no freehand drawing is provided in the manual training, industrial, and technical course after the second year.

¹ Exceptions may be made by the principal for pupils of the fourth year who are preparing for a technical college course. These pupils may substitute additional academic branches for the shop work.

The prescribed work in physical training is precisely the same as in the general course, namely, two periods per week for the entire four years.

Summarizing, the work provided in the manual training, industrial, and technical course coincides in many particulars with the work of the general course. The prescriptions, in respect to the total number of periods in English, foreign languages, music, physical education, and elocution, are the same. Neither is there any appreciable difference in the content and in the class procedure in these subjects in the two courses. The elementary work in mathematics and in chemistry and physics does not differ in the two courses, and the single course in United States history and civics is the same in each course. The only significant differences, therefore, between the general course and the manual training, industrial, and technical course consist of the introduction into the latter course of (1) spherical trigonometry, (2) specialized intensive courses in chemistry and physics, and (3) industrial work. The differences are in the kind and not in the content of subjects, or in the method of treating them.

COMMERCIAL COURSES

In What Schools They Are Found

A commercial course of four years is found in the High School of Commerce, Manhattan, and in the Commercial High School of Brooklyn. In the latter school is also a three-year course. A commercial course of three years is also offered in the following high schools: Eastern District, Brooklyn (girls); Bushwick, Brooklyn (girls); Washington Irving, Manhattan (girls); Morris, Bronx (boys and girls); Flushing, Far Rockaway, Jamaica, Newtown, and Richmond Hill, all of Queens (boys and girls); and Curtis, Richmond (boys and girls).¹

¹ Commercial education in New York City was made the subject of a special report, and hence is not dealt with here. See *Commercial Education* for the discussion of this subject.

CHAPTER IX

THE SPECIAL COURSES COMPARED

WE have treated the published special courses of study in the ten cities in precisely the same manner that we treated the general courses in these cities (see p. 76), and for the same reasons. In consequence we present here only a somewhat detailed summary of the results obtained from those analyses.¹

IN WHAT CITIES SPECIAL COURSES OR SCHOOLS ARE FOUND

The analyses of the special courses of study show that, of the ten cities compared, five (Boston, Cleveland, Detroit, Indianapolis, and Newark) provide differentiated or special high schools devoting their efforts to intensive training in special or technical lines. These five cities provide such schools for both boys and girls. All ten of the cities, however, save Indianapolis, offer, in addition, special courses in mechanic arts for boys, domestic and applied art for girls, and commercial work for both boys and girls in all of the general high schools. Indianapolis confines all work in mechanic arts for boys and domestic art and science for girls to the one school, the Manual Training High School, but this school is not regarded as a strictly technical school. The restriction to this school of the subjects mentioned is purely a matter of local convenience, the work in every respect being considered academic and cultural in character, not vocational.

¹The working papers of these analyses have been filed with the Committee on School Inquiry.

Of the five cities having special high schools, three have only one such school (Detroit, Indianapolis, Newark); one city (Cleveland) has two, and one city (Boston) has five. In the other cities all technical and quasi-vocational work is organized within the general high schools. New York City, therefore, in administering the technical instruction through differentiated high schools, finds support in other large cities; but, *per contra*, the practice elsewhere suggests that a portion of such instruction and training can also advantageously and economically be given in the general schools.

THE AIM QUASI-VOCATIONAL

The aim in all of the special schools¹ in each of the cities compared is to give a vocational turn to the instruction and training, but not to confine the education to narrow channels. Wherever the instruction is organized as a special course within the general high school, the aim is to furnish specialized or intensified training in some one or more subjects, but to base such training upon a broad foundation of general training. In respect to the aim set up for the special courses or special schools New York City is, therefore, in general harmony with the practice elsewhere.

SCOPE AND INTENSIVENESS OF SUBJECT-MATTER

Each of the ten cities compared provides at least a two years' offering in mechanic arts for boys in its general

¹The special schools are given the following names: in Detroit, "Cass Technical High School" (boys and girls), giving mechanic arts and commercial subjects; in Indianapolis, "Manual Training High School" (boys and girls), giving mechanic and domestic arts and commercial subjects; in Newark, "East Side Commercial and Manual Training High School" (boys and girls), giving a general course, and mechanic, domestic, and industrial arts and commercial subjects; in Cleveland, "High School of Commerce" (boys and girls), and "Technical High School" (boys and girls); in Boston, "Mechanic Arts High School for Boys," "High School of Practical Arts for Girls," "High School of Commerce" (boys), the "Public Latin School" (boys), and "Girls' Latin School."

high schools. Most of the cities provide a four-year course. All ten cities (except Milwaukee) provide a similar offering for girls in domestic science and art or in applied art. In every case, however, the special work is based upon and permeated with much work in the academic branches. English, mathematics, history and civics, and elementary science find place for one year or more in every city.

In most of the cities foreign language study, particularly modern foreign language study, is provided in the special courses or special schools, and in several it is prescribed for all students.

In the manual arts courses for boys the technical work includes industrial and commercial history and geography, economics, drawing, carpentry and wood-carving, wood-turning, pattern-making, forging, machine shop practice, and differentiated courses in natural science and mathematics.

In the practical arts courses for girls are found the technical subjects of sewing, cooking, dressmaking, millinery, household science (home sanitation, furnishing, decoration, and care), household accounts, and home nursing. In a few cities the additional subjects of household management, home architecture, food and nutrition, dietetics, laundering, textile handicraft, metal work, pottery, designing, color and design, charcoal and illustrating, sketching and water color, history of art or history of music are provided.

Commercial work for both boys and girls includes, as the distinctly technical subjects, penmanship, bookkeeping, correspondence, stenography and typewriting, commercial geography, commercial history, commercial English, commercial arithmetic, accounts, and banking.

In addition to the three more common special courses just mentioned (manual arts for boys, practical arts for girls, and commercial courses), a few cities provide intensified or specialized courses in several other departments. Thus, for example, Chicago offers the following special courses: (1) a builder's course, aiming to prepare students for the

building industries and to help to fit young men "after a reasonable apprenticeship" to take positions as foremen, superintendents, or general contractors; (2) an architectural course, planned to train individuals to become architects and draftsmen, or to give a general course in mechanical drawing; and (3) an arts course, designed for those interested in drawing, design, arts, and crafts. In addition, Chicago provides eight two-year vocational courses for boys and four two-year vocational courses for girls, all work in any of these courses being credited toward graduation from the four-year course.

Los Angeles provides fifty-three differentiated courses in the six high schools of the city. Of these courses eighteen have a decidedly technical bearing. These are: (1) mechanic arts; (2) domestic arts; (3) fine arts; (4) commercial; (5) electricity; (6) mineralogy; (7) surveying; (8) mechanical drafting; (9) architecture; (10) pattern-making; (11) dressmaking; (12) millinery; (13) forging; (14) foundry; (15) cabinet-making; (16) machine shop; (17) mining and civil engineering; and (18) agriculture.

Cincinnati provides seven technical curricula, among the seven being a course in art and a course in music.

Boston, Cincinnati, and Milwaukee also provide special two-year vocational courses for both boys and girls.

In comparison with the provisions for special or technical courses elsewhere, therefore, New York City is seen to be far from abreast of the times. In the scope and intensiveness of industrial work for boys, industrial work for girls, and commercial work for both boys and girls, it suffers by comparison with several of the other cities. This is strikingly true in respect to the offering in these subjects in the general or regional high schools. Moreover, considering the size of the city, the various nationalities represented, and the different intellectual, artistic, and vocational aptitudes among the students, the provisions for special courses or special schools of other types in New York City fall far short of what is being undertaken in several other places.

In the few special schools that are operated in New York City the scope and intensiveness compare fairly well—though not fully—with similar schools in other cities.

FLEXIBILITY

In nearly every one of the ten cities compared the special courses or special schools have been rendered available to a very large percentage of the boys and girls by reason of the flexibility with which the work has been administered. Instead of concentrating most of the special courses in one special school or in a few special schools, the majority of the ten cities have organized those courses in general schools. Even in those cities in which two or more special schools are provided, the rudiments of the special technical branches are usually offered in the general schools. Hence, in nearly all of these cities, there is abundant opportunity for boys and girls to test their interest in special lines of work before definitely electing to pursue any line of work intensively.

In all of the cities the work for the first three years in any special course is pretty definitely outlined and prescribed. In the fourth year, however, the practice is usual to allow individuals to specialize somewhat closely upon that particular aspect of the work which appeals most thoroughly to their interests. In many of these cities, too, the work of the prescribed academic subjects in the special courses is closely correlated with the technical branches. Thus, for example, in the commercial courses the work in English, foreign languages, mathematics, history, and science takes on a decided commercial bias. In the manual training and domestic arts courses the same branches emphasize the industrial aspects.

The most striking difference discovered in comparing New York City with the ten other cities under consideration is the paucity with which special courses are organized and the rigidity with which they are administered. That

is to say, work in the semi-academic, technical, or semi-vocational subjects is made difficult of attainment. This is peculiarly true of offerings in manual arts and in domestic arts. Though the former subjects are offered in four high schools, naturally fewer boys will secure the training in them than would be the case if every general high school also provided courses in such subjects. Certainly the administration of mechanic arts courses in other cities is far different from what it is in New York City.

Much the same differences exist respecting the organization and administration of practical work for girls. In nine of the ten school systems considered girls may elect to pursue special courses of this type for at least two years in almost every general high school. In New York City very little work of this kind is easily available, since little is offered in the general schools, and the special schools providing the instruction are few, and, for thousands, are far distant.

The administration of commercial work in New York City and in the other cities is more nearly on a common basis, but even in this department other cities make the instruction much more available for all than does New York City.

Finally, New York City, in comparison with other cities, provides a very small number of special courses in which the core of the work is academic in character or specialized without being technical. The only special course of this kind authorized by the Board of Superintendents in New York City is the scientific course of four years offered to boys in the Stuyvesant High School. Moreover, within each of the special courses, there is no notable differentiation in the content of the subject-matter or in the method of its presentation from what is found in the general course.

In view of the administration of special courses or special schools elsewhere, therefore, it appears (1) that there are fewer such courses or schools than the complex social and business interests of New York City demand, and

the physical difficulties of attending widely separated schools make desirable; and (2) that the special courses and special schools at present provided in New York City are not so thoroughly specialized as the organization of similar courses in other cities suggests as wise.

CHAPTER X

CRITICISMS AND RECOMMENDATIONS

IN the preceding analyses and comparisons it has been shown that, in organizing the high school work in (1) general courses or in general or regional high schools, in (2) special or technical courses within the general schools parallel to the general course, and in (3) special differentiated schools, New York City is in harmony with the practice found in many cities. This practice rests on the established American principle that the function of the public schools is to provide equal educational opportunities for every youth in the land, and upon the obvious truth that no two individuals are constituted with precisely the same capacities or interests. "Equal educational opportunities" can never justly be interpreted to mean precisely the *same* opportunities for all; on the contrary, it must be interpreted to mean opportunities as varied as individual and social needs require.

Youths who complete the elementary schools can be classified in two divisions: (1) those who go to high school, and (2) those who do not.¹ We are here concerned with the first group.

Of the pupils entering the high schools there are again two distinct classes or groups: first, those who have not yet developed any particular aptitudes or interests, or have

¹ In 1909-1910, 31,341 students were graduated from the public elementary schools in New York City, and, of this number, 19,612 entered high schools, i. e., 63 per cent. of the graduates entered high school and 37 per cent. did not. (From Table LXVIII of the Twelfth Annual Report of the City Superintendent of Schools, July 31, 1910, p. 138.)

not decided on any particular life work; and, second, those who have.¹

The first main division of the pupils who enter high schools is composed of those individuals who possess no decided bent, who have not yet discovered their permanent interests, who have no definite goal, and who have not much idea of what a high school can give or what they should seek within it. The number of such pupils is large. There is no doubt also that a large percentage of pupils who enter a high school with rather definite aims and ideals change their aims and ideals very materially if their stay in school is sufficiently prolonged. This is inevitable. Ideals are constantly shifting and changing for most adults; in adolescence instability is a common characteristic. In a very real sense, the boys and girls at this stage begin life anew. In some respects they are more helpless and dependent at this time than in the days of their childhood. They cannot make adjustments readily, and they ought not to be urged to do so over-readily. Hence, for these large numbers, the period should be one of self-discovery, testing, and *general* development. For them, therefore, the general high school or the general course in the high school seems the wisest—at least during the first and second years. Before the age of sixteen, high school boys and girls are generally too young and have had too little experience to decide permanently and positively upon a vocation for life and a curriculum that will lead to it.

The ambitions, aptitudes, and resources of the second main division of pupils have enabled or forced them early to select a goal in life, and prompted them to shape their education in the best ways to realize their purposes. All

¹ There are no available statistics respecting the proportion of pupils in the two divisions mentioned here. It is a well-recognized fact to all high school administrators, however, that such classes of pupils exist. The general principles on which the discussions in the following paragraphs are based have already been discussed in Chapter II. But the context requires some repetition here, where these principles are applied to the high school situation in New York City.

that they require is the opportunity to secure the instruction that will be conducive to this end. Of course, no fixed classification of the pupils in this group has ever been made or can be made. We may, however, for our present purpose, subdivide them into six groups. *First*, those who plan definitely to complete the high school course and later to enter various colleges of liberal arts and sciences. The high school for them is a preparatory school; and, if it fulfills its function in this respect, it must provide such training as the colleges demand for admission. *Second*, there is a class who plan definitely to complete the high school and to enter higher technical schools, engineering schools, offices, or other positions connected with industry. The demand made by this class is, like that of group one, for instruction that will fit them to enter advantageously upon their chosen career. For the members of this group manual training, drawing, applied mathematics, and specialized courses in science are preferable, if not essential. *Third*, there is a group composed of those whose talents, environment, and tastes lead them to seek instruction which will enable them, on the completion of a four or five-year course in the high school, to enter the various paths of directive business. They do not expect to engage in routine office duties or clerkships, or to enter other subordinate business positions; but they aspire to positions of leadership in trade, transportation, finance, industry, and other business callings. For this group a thorough business course in a high school of commerce or in a general school, preferably the former, is desirable. *Fourth*, there is a group whose ability, ambitions, and resources lead them to seek to fit themselves to occupy subordinate positions in professional, business, and commercial offices, and who therefore, look to the high schools to equip them as fully as possible for such positions. The general commercial or business course in the schools, largely clerical in character, seeks to serve the interests of this class of pupils. *Fifth*, there is a group, mostly girls, who enter the high schools

with the definite purpose of preparing to become teachers in the elementary schools of the city. A course of study embodying the prescriptions of the city training schools and other subjects fitting generally for this kind of work must, therefore, be provided. *Sixth*, there is a very large group of both boys and girls entering the high school each year, knowing definitely that they will be unable to complete the entire four-year course, but anxious to secure as much training as possible in the brief time at their disposal. For the most part, these pupils expect to enter upon one of two or three definite lines of activity. These activities are: (1) office duties in very subordinate places; (2) clerkships; and (3) industrial work. The expectation and hope of these pupils is that they will receive as much training in efficiency as their stay in the school makes possible. Moreover, the ideal of equal educational opportunities entitles them to such training.

These, then, are the six types of pupils who ordinarily enter the New York City high schools with definite aims and purposes. If our democratic ideals are to be approximately realized, definite provision for all these classes is both just and imperative. The aims of a school system must always determine the subject matter to be taught and the methods of instruction. Whether provision for these six divisions of pupils is made in separate schools, or in separate curricula¹ within particular schools, is not fundamental; the essential fact is that such distinct classes of pupils do exist in numbers sufficiently large to make the consideration of their particular needs imperative in New York City, as elsewhere, and that training essential to the real welfare of the individuals themselves, and the City, the State, and the nation at large, must be provided.

Hence educational theory and common practice throughout the country support the principle of organizing high

¹ The nomenclature herein adopted is that recommended by the Committee on College Entrance Requirements of the National Educational Association.

school education into (1) general curricula to serve that large body of pupils who, at the outset of their high school work, do not know their own points of strength and weakness; who are not forced by necessity to select at once a calling in life; and who have no well-defined educational ambitions; and into (2) special curricula to serve those pupils who have more or less fixed or predetermined plans, based upon individual capacities or ambitions, or determined by social conditions outside of the individual himself. We, therefore, commend the general plan of organization of the high-school system of New York City.

Commending the general plan of organization, however, is entirely different from approving the actual administration of that plan. In considering the completeness and efficiency of the system, two questions force themselves to the front for answer. The first is: Is the general course or the general high school as broad in scope of the subject-matter offered, as continuous and intensive in the instruction provided, as flexible in the administration of the work, and as readily available as it should be to meet the complex needs of a city of nearly five million people,¹ divided into fifty-four different nationalities,² representing all degrees of wealth and poverty, and exhibiting all variations in interests, temperaments, aptitudes, ambitions, and resources? The second question is: Are the special courses or special schools as numerous, as differentiated in kind, as broad in scope, as intensive in training, as available to those who need them, and as adapted to the requirements of those seeking to enter them as the city ought to be providing? The answer in both instances must be "No." A consideration in detail of the two types of schools is necessary. The discussion will treat first the general course and the general school, and then the special courses and the special schools.

¹ The federal census of 1910 gives New York City a population of 4,766,883.

² See special bulletin of the United States Immigration Commission for December 31, 1909. The figures are based on statistics secured in December, 1908.

THE GENERAL COURSE AND GENERAL SCHOOL CONSIDERED

As to Availability

The question of the availability of the general course for all who could or would profit by it involves the whole question of the adequacy of high school facilities in New York City. Since, however, seventeen of the twenty high schools provide a general course, discussion of the availability of this type of instruction must deal with the distribution of these schools over the city, and the actual provision within them of opportunities for appropriate general election of studies.

The enormous size of most of the high schools in New York City and the resulting fact that there are comparatively few high schools for a city the size of New York,¹ keep the schools long distances from a large part of the high school population. Long distances, necessitating the employment of mechanical means of travel, impose considerable expenditures of time and money upon young people seeking a high school education. For many pupils these incidental expenses are prohibitive of a high school education. For many others, it is fair to assume, they are the determining factor in the selection of a school to be attended and in the length of time devoted to such schooling.²

When, moreover, we note that nearly every high school in Manhattan and Brooklyn is a differentiated school in one or more respects, appealing even through its general course to particular types and classes of students, and not providing primarily for those who seek to discover their own true aptitudes, the availability of the general course

¹ "To provide for its children the same high school accommodations as are given by Minneapolis, Denver, and Kansas City, New York would need seventy-eight high schools instead of twenty." *School Review*, Volume XIX, page 685. An article on the report of the Committee of the High School Teachers' Association of New York City, Benjamin C. Gruenberg, Chairman.

² These assertions are based on the expressed views of high school principals.

and the possibility of its accomplishing its real function are very radically diminished.

For overcoming the difficulties incident to making the general course available to all pupils of the city (or at least of reducing the difficulties to a minimum), and for making such a course (and also the special course) serve better the purpose for which it is designed, three ways suggest themselves. First, several additional high schools might be provided for various parts of the city. It is indeed doubtful if it is economically necessary, or educationally or socially desirable, to provide buildings for pupils in excess of 1,500.¹ Second, the chief aim or purpose of each school might be more clearly and definitely defined, in which case the high school with a general course would be better able to serve its purpose. Undoubtedly one of the reasons why the general course does not at present make a stronger appeal to its students is that it attempts to serve too many classes of pupils, and its efforts are too scattered. Its efficiency would be increased if its function were more clearly defined as serving the needs of that group of pupils who have not fully decided on a definite educational career.² Third, the daily transportation expenses for all who must of necessity travel a distance greater than a stated minimum might be borne by the city at large. This may not at present be feasible. But the first and the second plans are possible and feasible. We, therefore, concur in the recommendations made in another part of this report on high schools³ that plans be adopted (a) to provide the different types of high schools essential to meet the needs of the various groups of pupils, and (b) to locate these schools where they will best serve the pupils for whom they are intended. We recommend also that serious consideration be given to the plan of defraying the expenses of trans-

¹ See Professor Ballou's report, given in *High School Organization* (School Efficiency Series, World Book Company, 1914).

² As analyzed on p. 119 of this volume.

³ See Ballou's *High School Organization* (School Efficiency Series, World Book Company, 1914), for discussion.

portation of those pupils who reside beyond walking distance, and for whom the cost of transportation is a barrier to obtaining a high school education.

As to Adaptability

It is certainly incongruous to provide a single uniform course for all pupils in the general high schools in a city with the diversified business interests, the complex social relations, and the individual differences in intellectual, physical, and moral powers found in New York City. Uniformity can operate advantageously only over a homogeneous body dominated by singleness of aim; not over a heterogeneous community with diversified aims and interests. The general course in New York City is not adjusted to the varied needs of all the pupils who pursue it. It rests altogether too much on the theory that whatever is useful in developing and training one class of individuals is equally serviceable for all. It is, moreover, noticeable that the subjects that hold the dominant place in the course are the ones tradition has handed down. The older college prescriptions set the ideal for all—that is, Latin, mathematics, and (with somewhat better reason) modern foreign languages. These subjects do, of course, possess important and indispensable values for pupils of certain types of mind and for those preparing for certain definite lines of work; but our adverse criticism is directed against setting the same prescriptions for all classes of high school pupils. The controlling ideal is too much that of the scholar, the exceptional individual, or the class of the privileged few.

If, however, the democratic principle is to hold that each pupil, whatever his native endowment or his life aims, shall be given an opportunity to develop himself to the fullest degree possible, shall be encouraged to derive from the course of study what he is capable of assimilating and of transmuting into personal efficiency and happiness, and

into social service and welfare—then a uniform course of study, or a course that approximates close uniformity, is decidedly unwise. A system of schools supported and administered by the people of a democratic community ought to be established on democratic principles.

To this end, the high schools of New York City must be better adjusted to social conditions. In particular, the curricula require modification to make them conform more closely to the interests and needs of pupils who pursue them or who should be encouraged to pursue them.

Courses of study and curricula are but means to given ends; never ends in themselves. They are administrative devices for guiding and ordering the work of the school. They rise out of social conditions and must find justification by ministering to social needs. They consequently reflect the aim of the school, and as the aim of the school in a complex progressive society is constantly undergoing modification, courses of study must gradually change in content and in the distribution of emphasis. Tradition should have no greater hold on them than it has on the real life of the people using them. When old views have been discarded and new ones have been accepted, when old interests have been superseded by new interests, the instrument for adjusting the members of society to the changed environment—the school—must in turn undergo modification.

To secure this vital adjustment, the principals of the various high schools should be encouraged, in conjunction and coöperation with their respective corps of teachers, to make thorough analyses of the needs and desires of the communities in which their schools are located, and of the dominant interests and real needs of the pupils that enter their schools. They should formulate courses of study for their several schools in the light of their findings and the best educational insight they can command. Such courses of study, unless disapproved by their official superiors, should then be put into actual operation in the schools for which they were designed, and the results carefully watched

by the Bureau of Investigation and Appraisal.¹ Every five years it should be incumbent on each principal and his corps of teachers to reanalyze the entire local situation, and, so far as found advisable, to recast the course of study anew. Only by adopting some such procedure can a course of study be kept in touch with the real needs of the community it is designed to serve and in harmony with contemporary educational principles.

We, therefore, urgently recommend that the general course be made more easily available to such as wish to pursue it, and better adapted to local needs. More specific and detailed suggestions and recommendations are embodied in the discussions that follow.

As to Scope

The analyses which constitute the first portion of this report have revealed clearly that, in respect to the scope or range of subject-matter found in the general course, New York City is in certain particulars behind every one of the ten cities with which it was compared, and no more than abreast of the aggregate offerings in any of them. It has been shown, too, that to a very large degree the nominal offering in New York City does not coincide with the actual offering; that many subjects which appear in the official course of study for all schools are being taught in only a few schools or in none at all. It should be noted also that no principal possesses any authority whatever to supplement the offering of the uniformly prescribed course or to modify the character of the offering to meet the special needs of pupils in his school.

A striking omission from the general course in New York City is manual training for boys. As has been shown elsewhere, of the ten cities with which comparison has been made nine provide at least a two years' offering in manual

¹ For information concerning this Bureau, see Elliott's *City School Supervision: A Constructive Study* (School Efficiency Series).

training in their general high schools, and the one other city provides the subject in a general academic high school open to such as choose to select that school. The practices in these ten cities may be regarded as representative of what is being undertaken in the more complete school systems throughout the United States. Certainly manual training of the right sort, as a means of education, has established its claims. If the general curriculum is primarily designed to give a large variety of experiences which interpret the life of to-day, then general introductory courses in manual arts cannot be omitted. Manual training, when properly carried on, provides the laboratory experience whereby the pupil comes to appreciate the significance of productive and constructive activities in modern life. We, therefore, recommend that as rapidly as accommodations can be provided manual training be introduced into the first and second years of the general curriculum of every school, one year of which should be prescribed for graduation for every boy.

A second noticeable omission from the general course as it is actually administered is the inadequate provision of general elementary work in domestic science and art and applied art for girls. Nine schools, it has been shown, provide a single year's offering in cooking, and five of these nine also give opportunity to obtain instruction in sewing. There is, however, in the general course, no applied art, or home management, or home architecture and decoration, or home nursing, or home sanitation, or domestic laundering, or chemistry of foods, or household economy. Since the aim of the general curriculum for the girls is to help them to find themselves, and to assist them to a more ready adjustment to the social conditions and the home duties which fall to the lot of most, if not all, of them, courses in the subjects enumerated (and similar courses) are imperative. Hence, courses of the kinds indicated should be much more generously provided than at present in every school having a general curriculum open to girls. At least

a two years' offering should be made available for every girl who desires the work, and one year's work should be required for graduation for every girl in the general curriculum.

In commercial offerings in the general course, the scope, as it appears on paper, is fairly extended; as it is actually found in the schools, there is much to be desired. It is as important that every pupil taking the general curriculum should have opportunity to secure an introductory acquaintance with subjects in this department as in any other. Hence, in the general curriculum, a year's offering in each of the following subjects is recommended: (1) bookkeeping; (2) stenography and typewriting; (3) economics; (4) commercial and industrial history and geography. All of these branches, except commercial and industrial history, are nominally provided at present, but bookkeeping is actually taught in but five schools; stenography and typewriting in six; and economics in two. Moreover, commercial law and commercial geography are at present found in but four schools. It is said by many principals and teachers that pupils do not elect these courses when opportunity is given them. It appears to us, however, that the reason lies not chiefly in the nature of the subjects themselves, but in the limitations of time due to the excessive amount of prescribed work. Commercial subjects should not be unduly encouraged. On the other hand, a mode of administration which makes their election prohibitive to the general student is to be condemned. The subjects enumerated above are worthy of a coordinate place with other branches in the general curriculum.

A new course greatly to be desired as an offering in every school for the general student is a course in civic and vocational guidance (introductory social science). Such a course should not be solely commercial and industrial in character, but should seek to give every pupil a keen appreciation of the activities of New York City and his personal relations to them. It should aim more fully to adjust an

individual to his times and his environment. Such a course may properly be styled "introductory social science—New York City, civic, commercial, and industrial." It should emphasize the study of the government agencies by which New York City is regulated, and the various professional, philanthropic, social, commercial, financial, and industrial activities through which the life of the city is kept going. It might well include a survey of the history of the world during the past twenty years and the relation of New York City to the world movements. It should include a consideration of the civic, commercial, and industrial needs of the city; a study of the types of vocations found in it; an analysis of the personal characteristics and native aptitudes which are essential for entering advantageously on the various great types of vocations; an outline of the technical preparation that must be undergone to fit for these vocations; and, finally, the probable rewards that will accrue to those who engage in them.

If by the expression "general culture" is meant the extension of one's horizon, the sharpening of one's insight, the breaking down of prejudices, and the intensifying of one's sympathies for others, a course of the kind just outlined should prove of highest cultural value. Indeed, it seems to have such value in other cities in which it is provided, notably Chicago. Moreover, if properly conducted, it ought to deter many a student at the outset of his career as a high school student from choosing his course unwisely, and, in consequence, by minimizing discouragements and dissatisfactions, to retain in the schools a much higher percentage of pupils than at present. On the other hand it ought to reveal to some students their unfitness to pursue the general course in the high school and to assist them to readjust their plans without undue waste of time and energy. In order to serve these ends, the course suggested should find its place in the first or second year, and we urgently recommend the incorporation of such a course into the curriculum as soon as materials and teachers are avail-

able, and suggest that the course be required of all students in the first year.

In the older academic branches, the scope of the work offered in New York City is more nearly in keeping with the liberal spirit of the age, and yet here, too, certain changes are desirable. Fourteen periods as the total aggregate offering in English, in a city in which fifty-four races are found in the high schools, certainly do not seem adequate. The subject is given less attention than Latin, French, or German. Surely if the high school is to fulfill its mission and adjust children of our immigrants to the life of America (in 1908, of the 25,452 pupils in attendance in the high schools of New York City, 13,255 were children whose fathers were of non-American races¹), appreciative familiarity with the English language and literature is necessary. Two types of courses in English are lacking in the New York City general course. First, there is need of "appreciation courses" in English, the aim of which should be to give a real love for good English literature and a real appreciation of it. Such a course should not consist primarily of English classics but of literature that has grown out of modern life and that is a true interpretation of the best life of to-day. This course should be intensely *real* in character, and should include, as part of its content, current fiction, poetry, essays, historical and political writings, and treatises on art, science, and ethics of a kind that can be comprehended and assimilated by boys and girls without special linguistic and literary tastes. Second, there is need of intensified courses in English in the third and fourth years of the general course. Fourteen periods, the total offering at present in English in New York City (except that in two high schools an additional and supplementary course of three periods is given), are

¹ Special report of United States Immigration Commission for December, 1909. In June, 1910, the total enrollment of pupils in New York City for the school year was 50,902 (Superintendent Maxwell's Twelfth Annual Report, page 147), but no statistics respecting their nationalities are available for that year.

not quite equivalent to three years of five periods per week. A survey of the comparative tables referred to elsewhere in this report (see page 85) shows that only four cities provide fewer than twenty periods of work in English and that several cities offer considerably more than this. With many of these cities, fifteen periods in English are prescribed for all, and, in addition, several intensified courses in the subject are open for election. We suggest that New York City make similar courses available.

In science elementary courses in astronomy and geology might well find a place. So also should advanced courses in physics and chemistry be provided for such as desire to specialize in these subjects.

In mathematics and foreign languages the scope is ample and calls for no expansion. Principals, however, should be given freedom to organize "Mathematics V, Advanced Mathematics," as classes in higher algebra, solid geometry, or trigonometry as the real needs of their students may require.

In history, civics, and economics the offerings are as complete as the demands of a general course require. The organization of the offering could, however, be greatly improved, and the adoption of the recent syllabus in history will facilitate this improvement. We recommend, therefore, that as rapidly as possible the work in this department be reorganized in conformity with the new syllabus.

It is strange that in New York City, one of the most famous musical and art centers in the world, and inhabited to so large an extent by peoples and races noted the world over for their musical and artistic temperaments—it is strange that in New York City fine arts and music receive so little recognition in the high schools. Courses in water color, oil painting, illustrating, carving, pottery-making, metal-working, the history of music, musical composition, and musical harmony should be available for those pupils who seek them.

Respecting the scope of the general course of study in

New York City we, therefore, recommend that introductory or elementary courses in manual training for boys, domestic science and art and applied art for girls, introductory social science (municipal activities and civic and vocational guidance), and fine arts be added to the present outlined course; that additional courses in commercial work, English, science, and music be provided, and that specialized courses (and also general "appreciation courses") in science, mathematics, history, and English be authorized and offered wherever the peculiar interests and needs of pupils make their presentation desirable.

As to Intensiveness

The comparative analyses made at the outset of this report show that New York City is far out of harmony with the practice of several other cities. The following criticisms and suggestions grow out of those analyses.

The practice in most high schools throughout the country is to assign four or five recitation periods per week to a large majority of the subjects in the high school. In order to introduce a larger number of subjects into a curriculum, however, there is always a tendency to reduce the number of periods assigned to the various subjects. It is our opinion that if the time allotment is diminished below four periods for studies requiring preparation, the danger of superficial results from the subject is imminent. Therefore, we recommend that this matter be a subject of special investigation (experiments) by the teachers, high school principals, and the Board of Superintendents. Until the number of periods per week for the various subjects has been determined by carefully appraised experiments, comments on the intensiveness of instruction in New York City must be based on the obvious local needs of pupils and the general practice elsewhere throughout the country.

By assigning to English but three periods per week subsequent to the first year, New York City has reduced the

intensiveness to a questionable minimum. As has already been stated, in a city seeking to adjust fifty-four different races to our society and actually including in her high schools children of alien races in excess of 52 per cent. of the total enrollment, the study of the English language and literature demands a very prominent place. It is doubtful if four years' work should be prescribed for all students; but better results would be secured if all sections (classes) in English (including elocution) in the first three years were to meet five periods per week, and if three years of English were to be prescribed for all. In the fourth year the subject might be offered four or five periods, as the situation required.

In the light of practices elsewhere and of contemporary educational theory, the intensiveness of the foreign language offerings requires no notable modifications.

So long as the city accepts the prescriptions of the state respecting the quantity and standards of work required for graduation, it would seem wise also to accept the time allotment made by the state for various subjects. A marked weakness is to be noted in this respect in the organization of the courses in mathematics. The state prescribes a year's work, carried through the equivalent of five periods per week, in plane geometry. The city offers plane geometry in the second year four periods per week and supplements this with a two-period course in the third year. Economy of time and better educational results would be secured if plane geometry were given five times per week at the outset and thus completed at the end of the second year. Nor can educational theory and common practice justify the two-period course in "Mathematics III, Algebra, Review and Advance," which extends throughout the entire year. Better results, we believe, will accrue if the course (if continued as a separate course in mathematics) be condensed into a four-period course extending through one term only. If the advanced course in plane geometry, "Mathematics IV," is to be retained in its present place it, too, we believe,

will gain in value if condensed into a four-period course extending through one term only.

The newly issued syllabi on the courses in history in New York City are planned to correct several defects found in the old syllabi. It is to be hoped that principals and teachers of history will speedily adopt the essential features of the revised plans. It certainly is incongruous to prescribe ancient history for all pupils of the second year—a large per cent. of whom (according to probable withdrawals based on actual statistics) are destined to leave school at the end of the year—and to defer the study of our modern peoples, civilizations, and institutions to the fourth year. Nor is "History II (English)," which is offered for two periods in the third year, satisfactory. It is not intensive enough to yield valuable results, nor does it satisfy the state requirements. An additional period at least should be added to this course. United States history, including civics, is too large a subject to yield its full value if pursued through a single year, four periods per week. The work should either be assigned five periods per week, or else be differentiated into two courses—one of three periods per week for a year, devoted primarily to political, constitutional, industrial, and economic history of the United States, and the other of three periods per week for one term in civics.

The administration of the work in science deserves adverse criticism. All classes in this department in the third and fourth years, except those in physics and chemistry, are assigned four periods per week. This assignment of time is inadequate if the work is to be commensurate with the real value of the subject-matter. All laboratory sciences should be pursued not fewer than five periods per week. If physiography of the fourth year is to be made merely an informational course without much laboratory work on the part of the pupils, four periods per week devoted to the subject will suffice.

The courses in music and drawing, though as intensive as

the work offered in the other cities compared, appear decidedly inadequate for New York City. Comment has already been made respecting the city as a musical and art center, and, with those considerations in mind, a single course in music, meeting once a week for four years, and an aggregate offering in drawing of six periods per week for one year appear to discriminate unfairly against the boys and girls whose talents lie in these fields.

A three-period or four-period course in both music and drawing, extending over the entire four years, should be made available as electives for those who might profit by their study. Such a course in music should include the history of music, musical composition, musical harmony, and voice culture. The correspondingly intensified course in drawing might well include tracing, modeling, still life, designing, and water colors.

Elocution, required for one period during the first year and offered as an elective for one period during the three following years, is not given the attention its value merits. It is acknowledged by all that the greatest medium of human expression is oral language; yet altogether too little place is given to developing in high school pupils the power of clear, distinct enunciation, proper pronunciation, and grace, vigor, and elegance in oral speech. Oral expression (which we believe is a much better phrase than "elocution" to denote the content and aim of this course) demands a prominent place in *every* class exercise in English, and should be given this attention. In the senior year a course of three periods per week in elocution, as a separate subject, is strongly recommended.

Finally, physical training, assigned two periods per week throughout the four years, is given the intensiveness that the subject demands. We recommend, however, that the work of the first two years consist of a maximum amount of actual physical exercise in the form of games, dances, gymnastic drills and contests, and a minimum amount of theory.

Summarizing, we recommend:

That the question of the number of periods per week and which subjects should be taught be investigated by the Bureau of Investigation and Appraisal.¹ Pending such investigation we make the following recommendations:

(1) That the work in English be assigned five periods throughout the first three years, and four or five periods the fourth year.

(2) That plane geometry be assigned five periods in the second year to conform to the standard set by the state (as long as the city prescribes state examinations).

(3) That algebra and geometry of the third year be organized into two half courses of four periods each for one term.

(4) That as speedily as possible the new syllabi in history be adopted by all schools.

(5) That all science courses after the first year be accompanied by individual laboratory work on the part of the pupils, and that to facilitate this work all science courses (after the first year) be assigned not fewer than five periods per week.

(6) That more courses in music, drawing, and arts be offered as electives and be assigned three or four periods per week.

(7) That oral expression be given much attention in every class exercise in English, and that a three-period course in elocution be made available in the third or fourth year.

(8) That physical education provide a minimum of theory and a maximum of practice, especially in the first two years.

As to Flexibility

It is clear that a program of study considerably more extensive in scope and more intensive in attack than the

¹See Elliott's *City School Supervision* (School Efficiency Series, World Book Company).

existing general course in New York City will be impossible of administration unless corresponding changes are made in the uniform prescriptions for all students. To us the rigidity of administration in New York City seems to be the crux of the entire high school problem so far as the course of study is concerned. In comparison with the practice found elsewhere, and in the light of current educational theory, we are convinced that the excessive uniformity in this respect constitutes the most serious defect and the gravest weakness of the administration of the program of studies. Not only are the specific subjects and points which are required for graduation more numerous than the requirements in most other cities, and, we believe, unwisely specified, but to such an hold that the aim of the schools is not to repress or destroy individuality, but to develop it, the administration of the work of each year takes on a rigidity that is distressing. We hold to the principle that a progressive democracy requires leaders as well as coöperators—men and women with trained initiative—and not merely a body of citizens with conventionalized ideas, habits, and attitudes. It follows, therefore, that if the schools are to serve well our democratic interests, they must encourage to the utmost individual talents, individual judgments, and individual responsibilities. Trained judgment, self-reliance, and self-control come, however, from the repeated exercise of choices and personal responsibilities, not from unquestioned obedience to external direction. Any curriculum, therefore, that is rigidly prescribed by external authority deprives the pupil, on whom it is imposed, of the opportunity to develop power of judgment, and it may also prevent attaining the training best suited to individual needs.

The general course in New York City is unwisely and unjustly inflexible. There is need for much decentralized authority in its administration and the delegation of greater powers to those who are finally to interpret and apply the curriculum. No two sections of the city have constituen-

cies with precisely the same interests. No two schools have pupils with uniformity of tastes and aptitudes. These facts should be taken into account to a greater degree than at present. The principals and heads of departments of the high schools in New York City have learned by experience and reflection what constitute desirable modes of administration; and it is safe to trust largely to their judgment. Above all, they deal with the *real* problems, are in contact with the *real* situation, and consequently can know better than any other class of officials the particular modes of administering a curriculum which will give the best results and the greatest satisfaction to their pupils and districts. Hence, they are worthy of large confidence, and of the bestowal on them of ample freedom and power to administer the general curriculum as contingencies make desirable. Moreover, much greater opportunity than at present should be given students to select under guidance the major portion of their work for themselves.

By referring to the comparative tables (page 87 ff.) it will be seen that New York City prescribes for graduation 70.1 per cent. of the total number of points; that the prescription by years (exclusive of subjects requiring no preparation outside the class exercise) is 100 per cent. for the first year, 75 per cent. for the second, 50 per cent. for the third, and 35 per cent. for the fourth; and that the total prescription of 70.1 per cent. is distributed over the various departments as follows: English, 17.2 per cent.; foreign language, 18.44 per cent.; history, civics, and economics, 11.07 per cent.; mathematics, 11.07 per cent.; and natural science, 12.3 per cent. Furthermore, it has been shown that, owing to the requirements of the state authorities, the nominal prescriptions are considerably smaller in the aggregate than the actual prescriptions, and that the nominal range of choice of subject-matter is still further diminished by reason of the moral pressure brought to bear upon students in certain schools and by traditions that have, in consequence, grown up in those schools.

Reference to the general course (see table, page 67) will also reveal the fact that students of the first year particularly are very much restricted in their opportunities to pursue work in accordance with their special needs. During this year the same twenty-six periods per week are, except in rare instances, required of all pupils, whatever be their aims, abilities, or tastes. Nor is there any differentiation in the content of the subject-matter provided, or in the methods employed in presenting it. Straight ahead all must go, if they go at all, in lockstep with each other. The effect is to discourage all but the apt. The principle that actually, if not intentionally, dominates the practice of the schools is that they are for the few that are already fit to walk alone; not for the mentally, socially, and physically undeveloped. With any such principle we take decided issue. To the shirk or the hopelessly incompetent the door of the high school should be closed as soon as his identity is recognized; but to the boy or girl with ambitions, energy, and grit every possible aid and encouragement should be extended, to the end that earlier deficiencies in training (if they exist) may be covered; that new sources of strength may be discovered and developed; and that earlier acquirements may be enlarged. The true function of the high school is to minister to all individuals who seriously and sincerely seek its aid—not to select only the fortunate few with exceptional abilities or abundant economic resources, and to allow them to set the standards and the course of study for all.

The general course in New York City is doubtless not intended to produce any such results; but in its actual administration such results do issue, as the statistics of the numbers of withdrawals from the schools bear indisputable witness. It cannot be justly asserted, of course, that the course of study is entirely responsible for the large number of "discharges." The extent to which it is responsible, because of its content and administration, should be made the subject of careful study by principals and teachers.

Meanwhile, in view of what has been said, it is impossible not to charge the course of study and its administration with a large share of responsibility for the very great loss of pupils, at least during the first year.

PREScriptions OF THE GENERAL COURSE

The following more detailed discussion considers the general course under the three headings of : (a) total prescriptions for graduation; (b) prescriptions for graduation by subjects; and (c) prescriptions by years.

Total Prescriptions for Graduation

Seventy and one tenth per cent. (70.1 per cent.) of all prepared work which is acceptable for graduation from New York City high schools, it has been shown, is absolutely prescribed for all pupils. If work in studies requiring no preparation be included, New York City permits, in 79.33 per cent. of the points required for graduation, no individual choice whatever, except in one respect, namely, which one of three foreign languages will be elected. That is to say, virtually four fifths (79.33 per cent.) of the entire four years' course is identically the same for all students, whether they are boys or girls; children of cultured homes and surrounded by helpful influences, or children of ignorant, impoverished parents and deprived of nearly all wholesome, indirect educative agencies; youths of brilliant native endowments, or youths of mediocre or little ability; pupils of artistic temperaments, or pupils of decided intellectual interests; or, finally, individuals who are timid, docile, and fitted for the directed activities in life, or individuals who are born leaders, possessing powers of initiative, generalship, and control.

We view this uniformity of prescription as vicious in principle and injurious in practice. It is undemocratic, unsocial, unpedagogical. Whatever may be the intrinsic values of certain prescribed subjects, those values are not

realizable to any satisfactory degree unless the subjects can be made to relate themselves to the past, the present, or the prospective future experiences of the individual pupils pursuing them. Moreover, while forcing pupils into channels for which they possess no appreciable aptitudes, the uniform prescriptions deprive many pupils of the instruction and training which are really suitable for them, and to which they are entitled. We, therefore, recommend that the uniform prescriptions for graduation in New York City be reduced fully twenty per cent. from the present requirements. That is, we recommend that not more than 55 per cent. of the units or periods required for graduation be specially prescribed for all students, but that individual election of studies be allowed and encouraged to the minimum amount of 45 per cent. of the required work.

Prescriptions for Graduation by Subjects

Respecting the prescriptions in the various departments of study, we hold to the following principles, namely: in a system of high schools, supported at public expense and administered primarily in the interest of the state, the social sciences and the vernacular language and literature should hold preëminent places. Intelligent and loyal citizenship can be approximated only through such instruction and training. Also, the dependence of the civilization of to-day upon the facts, principles, and applications of natural science renders training in this field essential to personal efficiency and welfare, and to the economic, industrial, and commercial prosperity of society at large. Moreover, in an industrial country such as ours, and particularly in a political unit such as New York City, in which economic struggles are so keen and social distinctions are so marked, there is urgent need of instruction in the public schools that will give a real appreciation of industry, an insight into the general processes by which a large proportion of the inhabitants maintain themselves, a respect for the dignity of manual labor, and a

sympathetic understanding of industrial questions. To these ends, and because no other subjects can give similar laboratory experiences, manual training for boys and domestic science and art for girls should be included in the list of prescribed subjects in every general high school course. Only in rare instances can substitutions for this work be approved.

The further social demand that the body of citizens be of sound physical health gives justification for insisting that all shall be instructed in the laws of health and the ways and means of preserving and developing health. Such a course should comprise instruction in general biology, the larger facts of bacteriology, and the practical aspects of human physiology and hygiene. Supplementing the theoretical instruction, a course in physical training is essential, to the end that corrective exercises may be prescribed and desirable habits of bodily activity may be established. These considerations, therefore, give warrant for prescribing for all pupils an elementary course in bacteriology, physiology and hygiene, and systematic physical training. If a course in "Elementary Science" is made sufficiently general to include instruction in these three aspects, such a course, supplemented by supervised physical training, satisfies the requirement.

The state also possesses direct interest in the moral equipment of its citizens. The inculcation, therefore, of moral ideals and the training in moral conduct become functions of the school which ought to operate upon all its members. Just how instruction and training in morality may best be given in the public schools, experimentation has not as yet sufficiently indicated. The most fruitful undertakings in this field thus far are those which produce indirect moral results. The general spirit and discipline of the school, the classroom procedure, and the influences and experiences connected with the administration of the quasi-academic student organizations are full of opportunities for moral instruction and training. Nevertheless, specific formal

agencies may not be neglected entirely. The practical presentation of ethical problems by means of familiar talks, vigorous pointed addresses, and appropriate readings in assembly possess large and permanent values, and should be employed in every school. It follows, therefore, that assembly can justly be prescribed for all. Where the sympathetic interest of principals and teachers can be secured, organized self-government by the students may also be made a valuable means of moral and civic training in high schools.

The concern of the state in the education of its citizens extends only one stage further. Its stability, prosperity, and growth are conditioned by the contentment, prosperity, and progressiveness of its members. Hence, the state demands that each citizen shall be an efficient workman in some chosen field of beneficial activity. The more varied the types of activity pursued and the more skilled the members of each vocation become, the closer becomes the approximation to the state's ideal. But it is no right or function of the state to prescribe for each member what his work shall be. This is a matter of personal choice.

Considerations of personal culture and pleasure also suggest that an elementary knowledge of music and drawing shall be attainable for all.

It follows from the above that the only absolute prescriptions any public high school can justly lay down for *all* students are courses in English, in the social sciences, in natural science, including physiology and hygiene, in physical training, in manual training for boys and in domestic science and art for girls, in ethics, and in music and drawing.

We are, therefore, of the opinion that the three years' prescription of a foreign language and the two years' prescription in mathematics for *every* pupil seeking to graduate from the general course in New York City are indefensible. The fact is, these subjects seem to have been prescribed (1) because they have been thought to prepare for the study of other subjects much more than because they

relate at all to the specific need of the child or to his future problems; and (2) because of their alleged intrinsic superior disciplinary values—an unproved theory for which there is at present at least as much reliable refuting testimony as there are supporting data. We, therefore, recommend that the prescriptions in foreign language study and in mathematics (as far as they are made to apply to *all* students in the general curriculum) be abolished entirely or reduced to a single year.

In place of the present arrangement and in addition to the prescribed subjects which we propose, we recommend that a series of suggestive subcourses¹ be outlined, each centering in some one of the major departments, as English, foreign language, mathematics, history, and science. With these outlined subcourses and with the aid and advice of the elementary school principals and teachers, parents and pupils should be enabled to select a school or a curriculum that will best serve their needs. Moreover, such subcourses would assist the pupil at the close of his first year to decide what work he ought to pursue the next year. If, after entering upon his high school career, it be discovered that an unwise choice of curriculum has been made by any student, opportunity for revising his choice should not be denied. Moreover, any credit that may have been gained for work satisfactorily completed should be accepted and allowed as far as it is fairly equivalent to the newly selected courses.

In other words, we recommend that the form of the general course of study as it now exists in New York City be continued, but that the prescriptions within it be reduced in number and amount. Supplementing this printed curriculum, however, we recommend that organized subcurricula be printed and circulated among pupils to serve as suggestive guides. The work in each of these suggested subcourses should center in some major subject or department. After the pupil has found some line of work for which he has shown some aptitude, or in which he has shown par-

¹ Curricula.

ticular ability, or after he has decided upon his career when he leaves school, the pupil should be allowed to select his school work, with the advice and consent of his principal and teachers, in accordance with his individual aptitudes or his future purposes.

To the end that he shall not scatter his efforts among too many subjects, and as an incentive to find out, as soon as possible, what subjects he is most capable of profiting by, we recommend that each pupil be required to take at least three years of work in one department of study other than English. This would make it possible for a pupil to postpone deciding in what department he should specialize until he has had at least one year, and possibly two years, of work in school—ample time to elect work in several departments before deciding; and he would thus have had training in choice and would have a proper basis for his choice of a specialty. By this arrangement every graduate would have had at least three years of study in two different fields of knowledge, and would have had the opportunity to select one of the two fields. Further, the remainder of his work, except as prescribed, could and should be wisely distributed among several departments to prevent overspecialization.

Just how extensive the prescriptions in the fundamental fields shall be has not yet been experimentally determined. In the light of practice elsewhere, and in keeping with current educational opinion, as voiced in associational resolutions,¹ in magazine articles,² and in public discussions, we feel justified in making the following recommendations, namely: (1) in English, including language study, composition, literature, and oral expression, three years of work,

¹ See Report of Secondary Department of National Education Association, 1911; Report of Committee on the Revision of the High School Course of Study of New York City (1910-1911); and Report of Consultation Committee of Sixty of the High School Teachers' Association, New York City, March 5, 1912.

² Numerous articles dealing with this question have appeared recently in *The School Review*, *Educational Review*, *Education*, and other magazines.

with five recitation periods per week; (2) in the social sciences, two years of work, including a year's work in introductory social science (based on municipal activities, civic, industrial, and commercial, and including vocational guidance), and a year's work in American history and civics. The first course may be assigned (three or) four periods per week; the last should be assigned five periods; (3) in natural science, a year of work in introductory natural science, covering four (or five) periods per week, based on biology, and including much instruction in bacteriology, physiology, and hygiene; (4) in manual training for boys and domestic science and art for girls, four double periods per week through one year; (5) in physical training and games, two periods per week throughout four years, the work being conducted so as to give relaxation and pleasure, and to develop useful habits of exercise, and not so much, as is often noticed at present, to secure approximation to theoretical ideals of grace and beauty of form; (6) in assembly talks, readings, and addresses, one period per week during the entire four years, the material presented to call for pupil reactions in some definite form each week; (7) in music, one period per week for two years; and (8) in drawing, one period per week for two years.

To summarize: the total prescription for graduation for all pupils from the general curriculum should not exceed fifty periods or eighty-five points out of the total requirement of ninety periods, or 150 points, and we suggest that these should be distributed over the various departments of study approximately as follows: English, including oral expression, three years (fifteen periods or thirty points); introductory social science, one year (four periods or eight points); United States history and civics, one year (five periods or ten points); introductory natural science, one year (four periods or eight points); manual training for boys, or domestic science and art for girls, one year (four periods or eight points); physical training, four years (eight periods or eight points); assembly, four years (four

periods or four points); music, two years (two periods or two points); drawing, two years (two periods or two points); total, forty-eight periods or eighty points.

The above arrangement would reduce the amount of prescriptions from 79.33 per cent. (the present percentage of all prescribed work) to 53.33 per cent.

Of course, those preparing to enter the city training schools or other institutions of higher education would be compelled to elect subjects which would satisfy the entrance requirements of those institutions. Moreover, it is recognized that the inauguration of this recommended more flexible curriculum would not in all respects be in harmony with the present state requirements for graduation from a high school. However, it should be pointed out that New York City cannot place the responsibility for the lack of flexibility in the administration of the general course of study on the State Department of Education. Indeed, the requirements¹ for an academic diploma from the State Department require two years of mathematics only, in addition to the subjects which we have recommended as prescribed subjects for all students. For a classical diploma from the State Department of Education naturally foreign languages would be required. In the interests of the large number of pupils in New York City who do not graduate from the high schools, or, if graduating, do not go to an institution of higher education, it is desirable for New York City to issue two types of diplomas—the Regents' high school diploma for such as meet the Regents' standards either for the academic diploma or for the classical diploma, and a New York City high school diploma for those who satisfy

¹ "The requirements for the academic diploma, which is issued only to students taking the Department's preliminary and academic examinations, are as follows: English, 13 credits; mathematics, 10; history, 8; science, 10; elective, 31. For the classical academic diploma: English, 13 credits; mathematics, 10; history, 5; science, 5; Latin, 20; a second foreign language, 15; elective, 4. These requirements went into effect June 1, 1909, and are continued in the syllabus of 1910." Page 15 of the Annual Report for 1910 of the Department of Education, State of New York.

the requirements for such a diploma fixed by the Department of Education of the City.

Prescription by Years

We agree that at the outset of a student's career in the high school his freedom of choice should be relatively small, but that, progressively, as now, external authority and direction should be diminished. To this end, we recommend, as previously mentioned, the preparation of a series of suggestive subcourses. Within each of these the work of the first two years in particular should be rather definitely specified. In the last two years—and especially in the fourth year—much freedom of choice should be possible and opportunity for specialization in a relatively narrow field be permitted.

In the first year in each of the parallel courses the following subjects should be prescribed: English, including oral expression, (5); introductory natural science, (4); introductory social science, (4); drawing, (1); music, (1); physical training, (2); assembly, (1); total, eighteen. In addition to these prescribed subjects most of the subcourses should provide an alternative choice of Latin, or German, or French, or algebra, (5). Each pupil whose physical and mental strength will warrant the effort should be permitted to elect a second alternative in the group of foreign language and algebra, or one subject at least from the following list: manual training, domestic science or art, stenography, typewriting, commercial arithmetic, additional drawing and music, and other courses introduced on the initiative of the principal and approved by his official superiors.

In the second year the uniform prescriptions should be: English, (5); manual training for boys and domestic science and art for girls, (4);¹ drawing, (1); music, (1);

¹ Of course, if these subjects have been elected and passed in the first year, they should not be required here. Moreover, in cases in which the individual finds it impossible to pursue this subject and at the same time prepare for the college of his choice, he should, on the advice and consent of the principal, be permitted to substitute another subject.

physical training, (2); assembly, (1); total, fourteen. The alternative choices for this year should lie, as before, between a foreign language and algebra or geometry, (5). The list of elective subjects from which two subjects should ordinarily be chosen is the list of the subjects of the first year increased by a second year's offering in each, and, in addition, Greek, Spanish, "History of Modern Europe to 1760," economics, bookkeeping, commercial history and geography, commercial English, commercial law, history of music, history of art, musical composition, mechanical drawing, designing, and other courses introduced on the initiative of the principal and approved by his official superiors.

In the third year, English, (5); physical training, (2); and assembly, (1), should be the only absolute prescriptions. The alternative subjects would be a third year of foreign language or advanced algebra and solid geometry, (4). Additional subjects should be open to election. These should include all subjects of the first and second years and continued courses in such subjects. In addition, the electives of this year should include "Modern History since 1760."

In the fourth year, United States history and civics, (5); physical training, (2); and assembly, (1), should be prescribed for all.

These recommendations, it is noticed, omit as absolute prescriptions for all pupils courses in foreign languages and mathematics. A minimum amount of work in each of these fields can wisely be included in the majority of the suggested courses of study recommended, but in our opinion graduation from the public high schools ought not to depend *for every student* on passing courses in either of these departments. We reiterate that in our opinion the function of the high school is to take any youth who may come to its doors and give him the best and most complete training his peculiar nature, endowment, and previous education may make most profitable for him and for society at large. For

many pupils a foreign language, and algebra and geometry, as taught in the high schools, yield no adequate returns and consume much valuable time and effort that may better be devoted to other subjects. For such pupils, a by-way which leads to the same final goal should be provided. In other words, we view the program of studies solely as a selective agency for realizing desirable ends, not as a list of subjects to be incorporated into the experience of every individual—the program of studies should be adjusted to individual needs, not individuals to the program of studies.

Under the present arrangement in New York City every first-year pupil is expected to pursue and complete work aggregating forty-six points. These leave but 104 points for the following three years, or an average of thirty-five periods per year, or seventeen and a half points per term. The work of the high school should become progressively more extensive and intensive with each succeeding year, not less exacting. The unwisdom of thus overcrowding the curriculum of the first year is all the more apparent when it is recalled that nearly every subject undertaken by such pupils lies in fields that are strange to them and as yet unexplored.

It is apparent, therefore, that the work of the first year, as at present organized, should be considerably lightened by permitting to individuals greater freedom of election of studies, and by distributing over the other three years a portion of the requirements now placed in the first year.

To render the administration of the courses of study more flexible and, therefore, more serviceable to larger numbers of boys and girls, we recommend, in recapitulation, the following:

- (1) That not to exceed 55 per cent. of the requirements for graduation be prescribed by departments or subjects.
- (2) That principals be given greater authority to adjust the course of study to local needs and to the needs of individual students.
- (3) That principals, in conjunction with their respective corps of teachers, be encouraged to make careful studies of

their community needs and to recommend to the Board of Superintendents desirable modifications in the course of study to be employed in their particular schools.

(4) That supplementing the printed program of studies (course of study), suggestive subcourses, each planned to provide for both concentration and dispersion of effort, be provided for pupils, and that each pupil be encouraged to elect such a subcourse.

(5) That before graduation each pupil be required to take at least three years of work in some subject or department other than English.

(6) That foreign language study and mathematics be not included in the absolute prescriptions for graduation, but that an alternative choice of these two subjects be permitted, and that, on the advice of the principal, neither be prescribed.

(7) That the only absolute prescriptions of subjects shall be:

(a) English.....	3 years	yielding 15 credits, or 30 points
(b) Introductory social science....	1 year	" 4 " " 8 "
(c) U. S. history and civics.....	1 " "	" 5 " " 10 "
(d) { Manual training for boys,		
Domestic science for girls....	1 " "	" 4 " " 8 "
(e) Introductory natural science..	1 " "	" 4 " " 8 "
(f) Physical training.....	4 years	" 8 " " 8 "
(g) Assembly.....	4 " "	" 4 " " 4 "
(h) Music.....	2 " "	" 2 " " 2 "
(i) Drawing.....	2 " "	" 2 " " 2 "
		<hr/>
		48 80

(8) That, distributed by years, the work shall be prescribed, alternative, or elective, as follows:

	Periods Prescribed	Periods Alternative	Periods Elective
First year.....	18	5 or 0	3, 4, or 5
Second year.....	14	5 or 0	6, 8, or 10
Third year.....	8	4 or 0	18, 20, or 22
Fourth year.....	8	0	18, 20, or 22
	<hr/>		
Total prescribed.....	48 periods.		

THE SPECIAL COURSES AND THE SPECIAL SCHOOLS

Availability

The aim of each special course within the general schools and the special schools themselves is obviously to provide instruction and training for boys and girls whose aims are rather definitely conceived or fixed. Such curricula or schools presuppose that the dominant interests of the individuals entering them have already been revealed, or that economic resources at the command of such students will not permit further general study. In preceding analyses these classes of persons were found to include six easily distinguishable groups, namely: (1) those desirous of entering colleges of liberal arts and sciences; (2) those planning to enter higher technical schools or colleges, or to enter positions in industry leading to directive activity; (3) those hoping, immediately on completing the high school, to engage in directive business undertakings; (4) those seeking to fit themselves for subordinate positions in the offices of the business world; (5) those preparing to teach in the public schools; and (6) those who are destined to engage in the more mechanical aspects of business and whose resources and abilities enable them to remain in the high schools only a portion of the usual four-year term. Hence, a complete offering in any school system should include special curricula or special schools for these six types of persons. The question here is: How available and adaptable are instruction and training for these distinct classes in New York City?

For Group 1 (those preparing for admission to colleges of liberal arts and sciences) New York City provides no avowedly distinct and differentiated courses or schools. The general course in each school, however, through a wise selection of elective studies, enables all who desire to go to college to prepare for the college of their choice. Since the general course is provided in seventeen high schools, the interests of this class are well conserved. The scope and in-

tensiveness of the work offered here have already been discussed and need not be reconsidered. They are ample.

For Group 2 (those who aspire to advanced training in higher technical or engineering schools or colleges and those who expect to enter the field of industry directly from the high school and assume there the responsibilities of draftsmen or mechanics) opportunities for obtaining the training desired are provided in four high schools. These are Stuyvesant, in Manhattan; Manual Training and Bushwick, in Brooklyn; and Bryant, in Queens.

It is evident that the availability of special courses or special schools offering instruction of the kind now under consideration is not sufficient to meet the real needs of Greater New York. It seems indisputable, too, that, were facilities provided in The Bronx, in the Borough of Queens in at least one school in addition to Bryant, and in the Borough of Richmond, large numbers of boys would elect such curricula. The situation is aggravated by the fact that in the general course no manual training is available for any of the pupils in New York City. For most boys the choice is to travel long distances and elect a school with a four-year course in manual training or accept the offering (without manual training) of the school near at hand and make the best of it. It can scarcely be doubted that all except those who possess a decided bent and with exceptional decision of character will accept the alternative that demands the lesser sacrifice and effort.

We, therefore, recommend (1) that as speedily as possible manual training high schools be established in The Bronx and in Richmond, and that additional schools of this type be provided in Queens, or else (2) that the subject of manual training be introduced as a course parallel to the general course in as many schools as possible in each of the five boroughs of the City.

Respecting the scope and intensiveness of the work now provided in the special courses or special schools, considerable adverse criticism is justifiable. The study of English

through fourteen periods distributed over the four years is not sufficient to satisfy the demands of contemporary culture and business. The arguments for rendering the course here more intensive are the same as those set forth respecting the study of English in the general course (page 131 ff.), and need not be repeated. We are, therefore, convinced that not fewer than four periods per week during the entire four years should be provided in this subject.

In the light of practices elsewhere, and in view of the technical purpose of the courses in manual training offered in New York City, we regard the number of periods devoted to mechanical drawing and to shop work as inadequate. We, therefore, recommend that not fewer than four periods per week during the entire four years be devoted to the former subject and not fewer than eight double periods per week throughout the entire four years be devoted to shop work. The course in English and United States history and civics, and the fourth year's offerings in chemistry and physics, should extend through five periods per week in accordance with the principles and conclusions presented elsewhere (page 133 ff.).

We recommend, further, that the following subjects be accorded a place in the special manual training course: physical and industrial geography, industrial history, economics; and, in the fourth year, intensified specialized courses in architecture, surveying, electricity, forging, foundry work, pattern-making, cabinet-making, and natural science, to the end that the professedly technical course may afford technical training.

In a special technical curriculum the demand for flexibility is satisfied if opportunity be given to specialize somewhat closely in one or two differentiated aspects of the purely technical work, and if all other prescribed subjects be taught with conscious reference to the special aim of the course. On the whole, as far as the printed course of study for the manual training high schools in New York City discloses and the observed practice in the four schools indi-

cates, little flexibility of these kinds is provided. In the manual training course of the Bryant High School alone is any considerable attempt made to differentiate the instruction in the semiacademic subjects to serve the peculiar purposes of the special course in which they appear. That is, in the manual training course in the Bryant High School, much of the instruction takes on a decided industrial bent, both as to content and as to method of presentation. The same thing is true in some respects and to a slighter degree in the work in science in the other manual training schools, but the differentiation is not decided. Indeed, in so far as the same subjects appear in both the manual training schools and the general course of the other schools in New York City, the work carried on in the Stuyvesant High School and the Manual Training High School of Brooklyn differs little in character from that found in the general course.

We are, therefore, decidedly of the opinion that a special course or a special school having a distinct and definite aim should provide instruction and training that are clearly relatable to that aim. Such special aim involves, therefore, differentiation in subject-matter, in topics to be selected within the chosen subject-matter, and in methods of presentation. We reiterate the statement that in our judgment the only valid criterion for selecting the material to be presented and in deciding upon methods to be used is dependent upon the aim to be realized.

The provision made in New York for members of Group 3 (those seeking to fit themselves for directive positions in the commercial and business world) is found in two schools—the High School of Commerce in Manhattan, and the Commercial High School in Brooklyn. Since a special report has been made by Assistant Superintendent Thompson on this aspect of high school work, it need not be considered here.¹

The provision made in New York for members of Group

¹ See Thompson's *Commercial Education* (School Efficiency Series, World Book Company, 1914).

4 (those seeking to fit themselves for subordinate positions as clerks, secretaries, stenographers, and accountants in offices in various lines of professional, commercial, and industrial business) consists of a three-year commercial course running parallel to the general course in eleven schools having the general course, and also in the Commercial High School in Brooklyn. A discussion of the aim, scope, and character of the work in these courses also falls within the above-mentioned special report on commercial education by Assistant Superintendent Thompson.

Group 5 (those students seeking to prepare themselves for admission to the city training schools) may, through judicious election of subjects, secure the requisite training in any high school offering the general course. This group of individuals is, therefore, limited in its opportunities only as the general course is limited in its availability. Hence, the criticisms and recommendations already made (on page 123) are supported and emphasized by a consideration of the needs of this group.

Finally, there is Group 6 (those pupils whose stay in the high school must be relatively short, and who will enter subordinate office positions, clerkships, and industrial vocations). For these classes New York City at present provides no satisfactory and adequate instruction and training. We are thoroughly convinced that the best interests of these pupils, both as individuals and as members of a complex social organism, can best be served if they are given an education that is at the same time broad in outline and intensely practical. Moreover, we sincerely doubt the educational, social, or vocational wisdom of prescribing for members of this group some of the subjects that possibly may reasonably be exacted of members of the other groups. What these persons wish, and what they ought to be permitted to secure, is an education that will enable them quickly to enter positions in the business world, to adjust themselves to its requirements without undue friction and loss of time, and to command from the outset a reasonable

living wage. In addition, the demands of personal culture and of social welfare require that all shall be given a foundation of knowledge that will enable them to appreciate and enjoy the best of the world's art, literature, science, history, and contemporary activities, and (for the girls) instruction and training in the ideals and functions of home-making and motherhood.

The only provision New York City makes for meeting directly the real needs of the members of this group of pupils are the technical courses (five in number) for girls found in the Washington Irving High School. (Certain experimental courses have recently been undertaken in the Wadleigh High School.) All other instruction that might be made to serve directly the interests of this group is either so hedged about with prescribed work of a character not adapted to the aims, capacities, and ambitions of the pupils of this group; is deferred in the course to so late a period; or else is made so generally unavailable because of its incorporation into the courses of study of so few schools that the offerings must fail almost completely in serving the needs of many students of the type under consideration.

In view of these facts we urgently recommend that principals of the various schools be given authority to organize courses that seem to them best adapted to meet the needs of the pupils of this class, and that such courses be offered as free electives, and in lieu of the present prescribed subjects, to all whose high school courses are to end before the completion of the regular high school course of four years.

In particular, we recommend that technical curricula, similar to the courses at present provided in the Washington Irving High School; that "appreciation courses," such as are at present being undertaken as extraordinary courses in the Wadleigh High School; and that elementary courses in industrial, commercial, and business subjects be provided much more extensively than at present throughout every section of the city. We do not advocate uniformity in courses or in methods of presentation throughout the vari-

ous schools, but, on the contrary, urge that the real aspirations and needs of the pupils attending any given school shall first be tested and discovered, and that the courses and methods shall then be adapted to the realization of the ideals set up.

In summarizing, therefore, we recommend that the special schools or special curricula leading to clearly distinguished goals be increased in number; be distributed more evenly over the various districts of the city; and be made more extensive in the scope of their offerings and more special or intensive in the lines of work each professes to emphasize. In particular, we recommend that opportunities for pursuing courses in manual training for boys, technical courses (work) for girls, elementary commercial branches (for both boys and girls), and general "appreciation courses" for both boys and girls be multiplied, and that principals of schools be given more freedom in organizing the work so as better to adjust the instruction to the professed aims of the curricula.

CHAPTER XI

SUMMARY OF RECOMMENDATIONS

The following is a complete summary of the recommendations made in this volume :

A. RESPECTING THE GENERAL COURSE OF STUDY

- I. It should be rendered more available to all young people of the city by means of—
 1. Several additional high schools of different types and so distributed throughout the several districts of the city as to meet the needs of the pupils for whom they are intended.
 2. Giving serious consideration to the possible plan of defraying the expenses of transportation of those pupils who reside beyond walking distance, and for whom the cost of transportation is a barrier to obtaining a high school education.
- II. It should be better adapted to the varied needs of pupils by—
 1. Extending the scope of studies to include—
 - (a) Manual training.
 - (b) Domestic science and art in every school.
 - (c) Applied art for girls.

- (d) Additional commercial subjects.
 - (e) Advanced courses in mathematics, including the "principles of statistics," "principles of actuarial science," and kindred subjects.
 - (f) Intensified specialized courses in natural science.
 - (g) "Appreciation" or general information courses in the departments of the older academic subjects.
 - (h) Specialized courses in music and fine arts.
 - (i) Courses in musical appreciation and art appreciation.
 - (j) Mechanical drawing.
 - (k) A course in introductory social science, including local government, local industries, study of vocations, history of the recent past, and current topics.
 - (l) Household economics, including household accounts, purchasing, dietetics, home decoration, home architecture, household sanitation, and household chemistry.
2. Giving a greater intensiveness and continuity to some of the instruction by providing—
- (a) That the work in English be allotted four or five periods throughout the entire course.
 - (b) That plane geometry be assigned five periods per week in the second year, to conform to the standards set by the state.

- (c) That algebra and geometry of the third year be organized into two courses of four periods each for one term.
 - (d) That as speedily as possible the recently issued syllabi in history be adopted by all schools.
 - (e) That all science courses after the first year be accompanied by individual laboratory work on the part of the pupils, and that to facilitate this work such science courses be assigned not fewer than five periods per week.
 - (f) That courses in music, art, and drawing be multiplied and be assigned three or four periods per week.
 - (g) That oral expression be given much attention in every class exercise, particularly in class exercises in English, and that a three-period course be made available in the third or fourth year.
 - (h) That physical training provide a minimum of theory and a maximum of practice, exercise, and games.
3. Making the administration more flexible by—
- (a) Prescribing for graduation a much smaller amount of rigidly specified work than at present, such prescriptions to include only—

- (1) Three years' work in English (including oral expression), aggregating fifteen periods.
- (2) One year's work in introductory natural science, aggregating four periods.
- (3) One year's work in introductory social science, aggregating four periods.
- (4) One year's work in United States history and civics, aggregating five periods.
- (5) One year's work in manual training for boys or domestic science and art for girls, aggregating four periods.
- (6) Two years' work in drawing, aggregating two periods.
- (7) Two years' work in music, aggregating two periods.
- (8) Four years' work in physical training, aggregating eight periods.
- (9) Assembly throughout the course, aggregating four periods.

Or a total of forty-eight periods.

- (b) Prescribing by specific subjects, for the respective years, not to exceed the following:

1. First year—

	Periods
English, including oral expression	5
Introductory natural science	4
Introductory social science	4
Physical training	2
Drawing	1
Music	1
Assembly	1
<hr/>	
Total	18

2. Second year—

English	5
Manual training or ¹ domestic science and art.	4
Physical training	2
Drawing	1
Music	1
Assembly	1
<hr/>	
Total	14

3. Third year—

English	5
Physical training	2
Assembly	1
<hr/>	
Total	8

¹ Unless the subject has already been elected in the first year.

4 Fourth year—

United States history and civics	5
Physical training	2
Assembly	1
	<hr/>
Total	8

- (c) Making foreign language study alternative with mathematics, and, upon the advice and approval of the principal of the school, waiving the alternative entirely for such individuals as can profit more by taking some other subject.
- (d) Encouraging principals, in conjunction and coöperation with their respective corps of teachers, to study local needs and to modify their courses of study and programs of study in accordance with their findings.
- (e) Organizing the program of studies into a series of suggestive parallel curricula, each containing the prescribed subjects, and, in addition, elective subjects, arranged so as to give an intensive training in some one or at most two fields of knowledge.
- (f) Issuing more than one type of diploma—for example, the Regents' high school diploma and the New York City high school diploma.

B. RESPECTING THE SPECIAL COURSES OR THE SPECIAL SCHOOLS**I. They should be made more available to all young people of the city by means of—**

1. Several additional high schools distributed throughout the several districts of the city.
2. The incorporation of additional special or technical courses parallel to the general course in the general high schools.
3. The incorporation, as electives in the general course, of elementary courses in semi-technical work.

II. The high schools should be better adapted to the varied needs of pupils by—

1. Extending the scope of work in each type of school.
2. Differentiating the subject-matter and instruction of the included academic subjects so as to give them a decided technical bent.
3. Giving a somewhat greater intensiveness than at present to the prescribed academic courses.
4. Permitting, during the third and fourth years, individual specialization in aspects of the work that have aroused peculiar interest.
5. Encouraging principals of high schools freely to organize special courses and special curricula to meet the needs of pupils whose stay in school must be short, and whose interests are best served by giving them "appreciation courses" and much practical knowledge and training.

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